V2246

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VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT CRASH PROTECTION WINDSHIELD MOUNTING, WINDSHIELD ZONE INTRUSION (PARTIAL) AND FUEL SYSTEM INTEGRITY

DIAMOND STAR MOTORS CORPORATION
1995 Dodge Avenger
2-door coupe

NHTSA NUMBER: CS0310

CALSPAN TEST NUMBER: 8221-11

January 21, 1995

CALSPAN CORPORATION
ADVANCED TECHNOLOGY CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225

FINAL REPORT

PREPARED FOR:

U. S. Department of Transportation
National Highway Traffic Safety Administration
ENFORCEMENT
Office of Vehicle Safety Compliance
400 Seventh Street, S. W.
Room No. 6115 (NEF-30)
Washington, DC 20590

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Approval Date: _____

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Final Report of FMVSS 208, 212, 219 (Partial), and 301 Compliance Testing of a 1995 Dodge Avenger 2-door coupe NHTSA No. CS0310	January 21, 1995
	6. Performing Organization Code CAL
7. Author(s) Vincent Paolini, Project Engineer David J. Travale, Program Manager	8. Performing Organization Report No. 8221-11
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15. Supplementary Notes

16. Abstract

A 30 mph vehicle safety compliance test was conducted on a 1995 Dodge Avenger 2-door coupe.

This test was performed at the Calspan Advanced Technology Center in Buffalo, New York on January 21, 1995. The purpose of this test was to determine compliance with the performance requirements of the following Federal Motor Vehicle Safety Standards:

1. FMVSS No. 208, "Occupant Crash Protection"
2. FMVSS No. 212, "Windshield Mounting"
3. FMVSS No. 219 (partial), "Windshield Zone Intrusion"
4. FMVSS No. 301, "Fuel System Integrity"

The test mode was perpendicular (0°) and the impact velocity was 29.4 mph. The ambient temperature at the impact face was 70 °F.

The subject test vehicle appears to comply with the requirements of FMVSS Nos. 208, 212, 219 (partial) and 301.

Type of Restraint System: The test vehicle was equipped with a driver air bag and a passenger air bag restraint system. The manual seat belts were not used for this test.

17. Key Words	18. Distribution Statement
Compliance Testing Safety Engineering FMVSS 208	Copies of this report are available from: NHTSA Technical Reference Division ; Mail Code: NAD-52 400 Seventh , S.W., Room 5108, Washington, D.C. 20590 Telephone No. (202) 366-4946 Attn: Robert Hornickle

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Section 1

PURPOSE AND TEST PROCEDURE

This 30 mph frontal barrier impact test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208, 212, 219 (partial) and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by Calspan Advanced Technology Center under Contract No. DTNH22-93-D-11089. The purpose of this test was to determine if the subject vehicle, a 1995 Dodge Avenger 2-door coupe, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS No. 212, "Windshield Mounting"; FMVSS No. 219 (partial), "Windshield Zone Intrusion"; and FMVSS No. 301, "Fuel System Integrity". This compliance test was conducted using the requirements found in the OVSC Laboratory Test Procedure No. TP-208-09, dated March 15, 1993.

Section 2

SUMMARY OF TEST NUMBER CS0310

A frontal barrier was impacted by a 1995 Dodge Avenger 2-door coupe at a velocity of 29.4 mph. The test was performed at the Calspan Corporation Advanced Technology Center on January 21, 1995. Pre- and Post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by one real-time camera and 14 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the OVSC Laboratory Test Procedure.

Both ATDs were fully instrumented with head and chest three axis (x, y, and z) accelerometers, chest displacement potentiometers and left/right femur load cells. These ATDs had been certified prior to the test.

The 26 channels of data were recorded on a P.C. based data acquisition system. Appendix B contains the vehicle and dummy response data traces.

The driver's HIC was 195.91. The maximum chest deceleration over 3 milliseconds was 45.007 g's with 0.8 inches of deflection. The maximum force on the driver's left femur was -1262.9 pounds and -1779.5 pounds on the right femur.

The right front passenger's HIC was 165.83. The maximum chest deceleration over 3 milliseconds was 26.917 g's with 0.4 inches of deflection. Loads of -1629.4 and -1334.7 pounds were recorded on the left and right femurs respectively.

Table 1

CRASH TEST SUMMARY

Vehicle NHTSA No. :	CS0310	Test Mode :	30 mph Frontal Barrier		
Test Date :	January 21, 1995	Time:	9:40	Temperature :	70 °F
Vehicle Make/Model/Body Style :	1995 Dodge Avenger 2-door coupe				
Vehicle Test Weight :	3370 lbs				
Vehicle/Barrier Impact Angle :	0 °				
Impact Velocity :	29.4 mph				
Maximum Static Crush :	12.1 inches				
Vehicle Rebound :	17.6 inches				

DUMMIES:	DRIVER	PASSENGER
Type :	Part 572 E	Part 572 E
Restraint System :	Air bag	Air bag

Number of Data Channels : 26

Number of Cameras : 1 Real Time

14 High Speed

DOOR OPENING DATA : Closed/Operable - Left Front

Closed/Operable - Right Front

Front Seat(s) Data :	DRIVER	PASSENGER
Seat Track Failure :	0.0	0.0
	Inches of shift	
Seat Back Failure :	None	None

VISIBLE DUMMY CONTACT POINTS :	DRIVER	PASSENGER
Head :	Face with top, center of air bag, rear of head with front of sunvisor on rebound.	Face with center of air bag
Abdomen :	No contact	Air bag
Chest	Air bag	Air bag
Knees	Lower dash panel	Glove box door

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1995 Dodge Avenger 2-door coupe

NHTSA No. : CS0310 ; VIN: 4B3AU42Y8SE119410 ; Color : Gray

Engine Data: 4 cylinders; - CID; 2.0 Liters; 2000 cc

Placement : - Longitudinal or In-Line; X Transverse of Lateral

Transmission Data : 4 speeds; - Manual; X Automatic; X Overdrive

Final Drive : - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive

Major Options : X A/C; X Pwr.Strg.; X Pwr. Brakes

X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel

Date Received : 1-17-95 ; Odometer Reading 16.0 miles

Selling Dealer : TRANSITOWNE DODGE

& Address: 7408 Transit Road Williamsville, N.Y. 14221

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : DIAMOND STAR MOTORS CORPORATION

Date of Manufacture Dec-94

GVWR : 3925 lbs.; GAWR: 2161 lbs. FRONT; 1764 lbs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 35 psi FRONT

35 psi REAR

Recommended Tire Size : P195/70R14 90 H

* Recommended Cold Tire Pressure : 32 psi FRONT; 29 psi REAR

Size of Tires on Test Vehicle: P195/70R14 90 H ; Manufacturer: GOODYEAR

Vehicle Capacity Data :

Type of Front Seats: - Bench; X Bucket; - Split Bench

Number of Occupants: 2 Front; 3 Rear; 5 Total

Vehicle Capacity Weight (VCW) = 827 lbs.

No. of Occupants x 150 lbs. = 750 lbs.

Rated Cargo/Luggage Weight (RCLW) = 77

*Tire pressure used for test

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front	= 917	lbs.	Right Rear	= 559	lbs.
Left Front	= 937	lbs.	Left Rear	= 562	lbs.
TOTAL FRONT	= 1,854	lbs.	TOTAL REAR	= 1,121	lbs.

TOTAL DELIVERED WEIGHT = 2,975 lbs.

% of Total Front of Vehicle Weight = 62.3 % of Total Rear Weight = 37.7 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight	= 2,975	lbs.
Rated Cargo/Luggage Weight (RCLW)	= 77	lbs.
Weight of 2 p.572 Dummies @ 167 each	= 334	lbs.
TARGET TEST WEIGHT	= 3,386	lbs.

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 61 POUNDS OF CARGO WEIGHT:

Right Front	= 959	lbs.	Right Rear	= 716	lbs.
Left Front	= 1013	lbs.	Left Rear	= 682	lbs.
TOTAL FRONT	= 1,972	lbs.	TOTAL REAR	= 1,398	lbs.

TOTAL TEST WEIGHT = 3,370.0 lbs.

% of Total Front Weight = 58.5 % % of Total Rear Weight = 41.5 %

Weight of Ballast Secured in Vehicle Trunk Area = 25.0 lbs.

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in inches) :

AS DELIVERED :	RF	28.3	LF 28.4	RR	28.1	LR	28.1
FULLY LOADED :	RF	27.7	LF 27.6	RR	27.3	LR	27.2
AS TESTED :	RF	28.0	LF 27.8	RR	27.5	LR	27.4

Vehicle's Wheel Base : 104 in.

Location of Vehicle's C.G. : 43.1 inches rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 16.9 gallons

Usable Capacity Figure Furnished by COTR = 16.9 gallons

Test Volume Range (92 to 94% of Usable Capacity) = 15.5 to 15.9 gallons

ACTUAL TEST VOLUME= 15.7 gallons (with entire fuel system filled)

Table 3

POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : January 21, 1995 Time: 9:40 Temperature: 70 °F

Vehicle NHTSA No. : CS0310

Required Impact Velocity Range : 28.9 to 29.9 mph

BARRIER IMPACT VELOCITY : (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 29.4 mph; Trap No. 2 = 29.3 mph

Distance from vehicle to barrier : (1) entering trap = 52 inches

(2) exiting trap = 12 inches

VEHICLE STATIC CRUSH: (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test	Right =	181.5	; C/L =	187.5	; Left =	181.5
Post-Test	Right =	171.0	; C/L =	170.6	; Left =	172.7
Crush	Right =	10.5	; C/L =	16.9	; Left =	8.8

AVERAGE = 12.1 inches

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

	Right =	17.1	; C/L =	18.1	; Left =	17.7

AVERAGE = 17.6 inches

DOOR OPENING :	Left	Right
Front	Closed/Operable	Closed/Operable
Rear	N/A	N/A
SEAT MOVEMENT :	**Seat Back Failure**	**Seat Shift**
Front	None	0.0
Rear	N/A	N/A

Table 3

POST IMPACT (cont.)

GLAZING DAMAGE :

Windshield cracked throughout

OTHER NOTABLE IMPACT FEATURES :

Steering column stroked upward

Section 3

OCCUPANT AND VEHICLE DATA

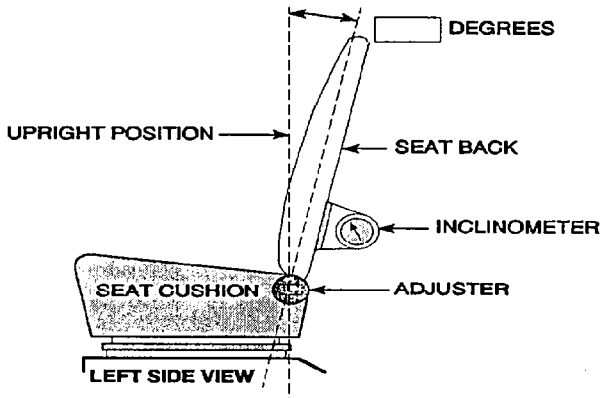
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1995 Vehicle Model: Dodge Avenger Body Style : 2-door coupe

1. Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat : 27 deg.

Measurement instructions : Place seat in 5th detent rearward of full forward position.

Seat back angle for passenger's seat : 27 deg.

Measurement instructions : Same as driver seating position.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Place seat in 13th notch (mid-position) from a total of 25 detents.

Positioning of the passenger's seat (if applicable) : Place seat in 13th notch (closest detent from mid-travel) from full forward position. (Full forward = position 1).

3. Fuel Tank Capacity Data

A. "Usable Capacity" of the standard equipment fuel tank is 16.9 gallons

B. "Usable Capacity" of the optional equipment fuel tank is - gallons

4. Steering Column Position :

Mid-position. 9.2 deg. upward from full down position.

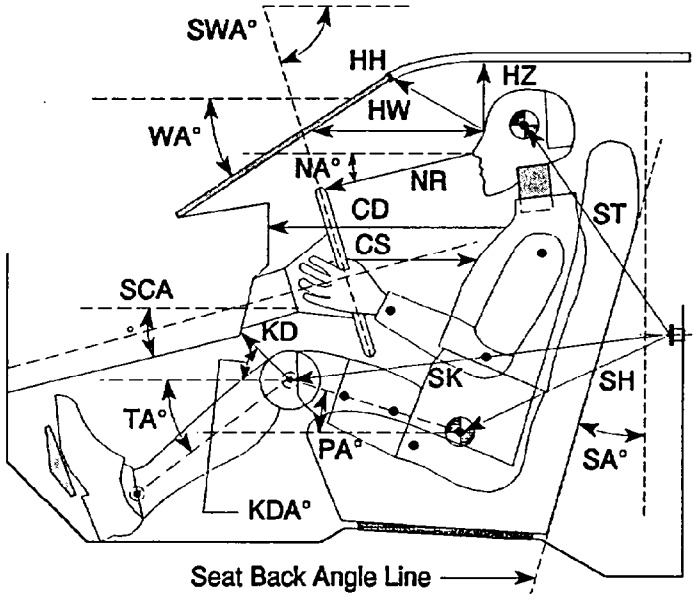
5. Other:

None

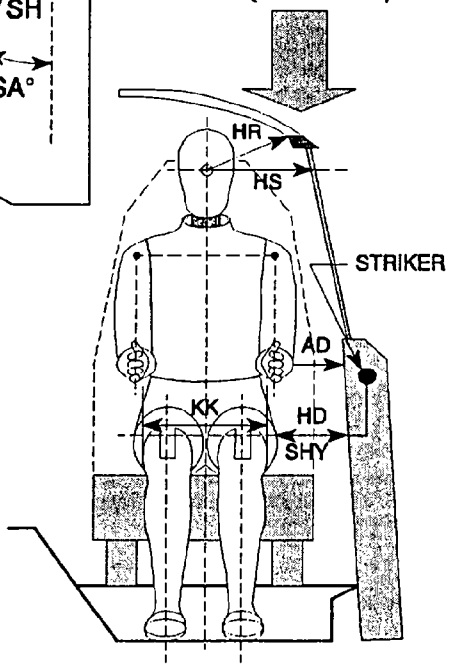
Figure 2

PART 572 DUMMY IN-VEHICLE POSITION

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



AD - Arm to Door
HD - H-Point to Door
HR - Head to Side Header
HS - Head to Side Window
KK - Knee to Knee
SHY- Striker to H-Point (Y Direction)



CD - Chest to Dash
CS - Steering Wheel to Chest
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
KDA- Knee to Dash Angle
KDL- Left Knee to Dash
KDR- Right Knee to Dash
NA - Nose to Rim Angle
NR - Nose to Rim
PA - Pelvic Angle
RA - Rim to Abdomen
SA - Seat Back Angle
SCA- Steering Column Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
SWA- Steering Wheel Angle
TA - Tibial Angle
WA - Windshield Angle

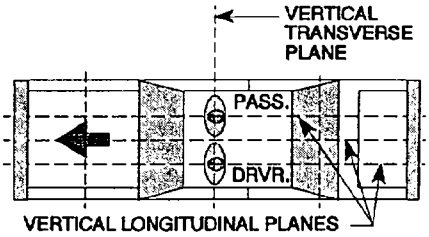


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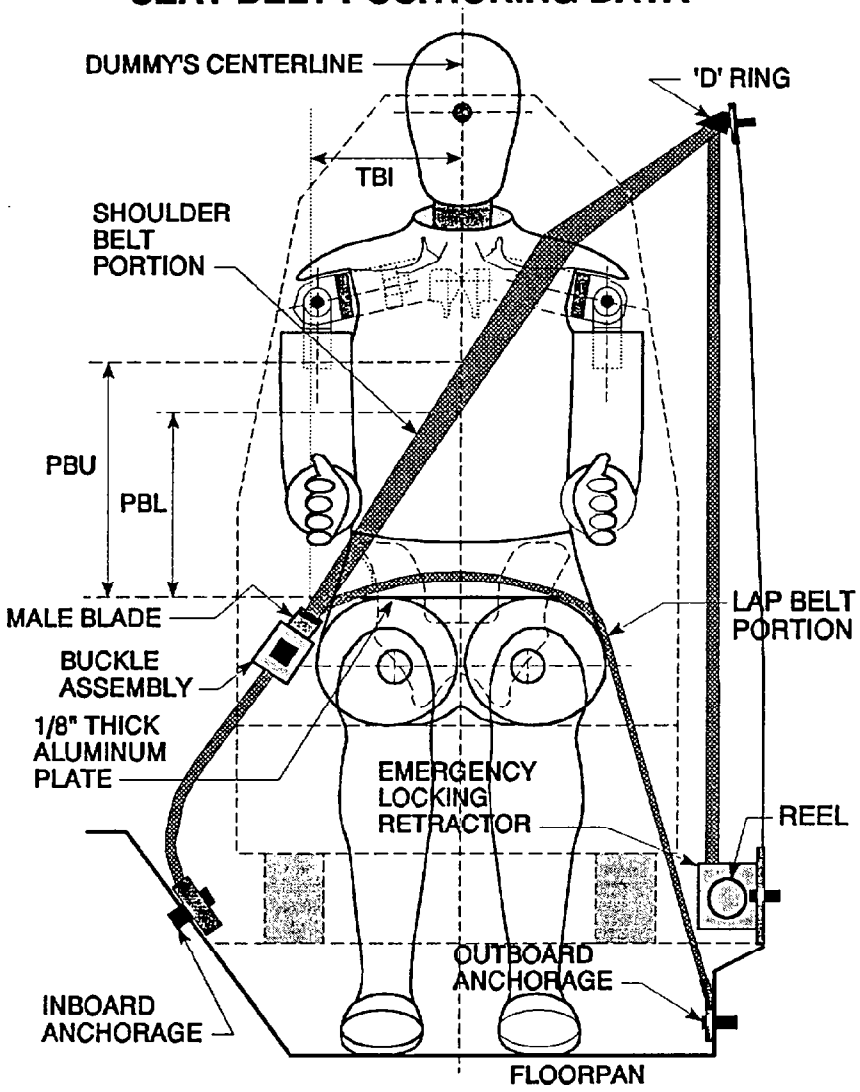
Table 4

FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #341)	PASS. (Serial #342)
WA°	24 deg.	-
SWA°	72 deg.	-
SCA°	18 deg.	-
SA°	27 deg. 5th notch from full forward.	27 deg. 5th notch from full forward.
HZ	6.8	6.5
HH	12.2	12.4
HW	23.8	23.7
HR	7.9	7.3
NR	13.5 Angle 8 deg.	-
CD	21.0	21.0
CS	12.0	-
RA	8.0	-
KDL	6.9 Angle (KDA) 53 deg.	6.9
KDR	6.2	7.3 Angle (KDA) 32 deg.
PA°	24 deg.	23 deg.
TA°	28 deg.	28 deg.
KK	11.4	9.8
ST	21.0 Angle 46 deg.	21.5 Angle 48 deg.
SK	32.0 Angle 100 deg.	32.5 Angle 100 deg.
SH	18.0 Angle 125 deg.	18.5 Angle 124 deg.
SHY	9.0	9.0
HS	10.8	10.8
HD	6.4 to door pocket	6.3 to door pocket
AD	2.5	2.5

Figure 3

SEAT BELT POSITIONING DATA



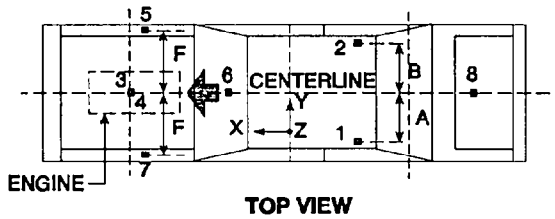
FRONT VIEW OF DUMMY

	DRIVER DUMMY (inches)	PASSENGER DUMMY (inches)
PBU -- Top surface of alum. plate to upper edge	*	*
PBL -- Top surface of alum. plate to belt lower edge	*	*
TBI -- Distance from torso centerline to buckle	*	*

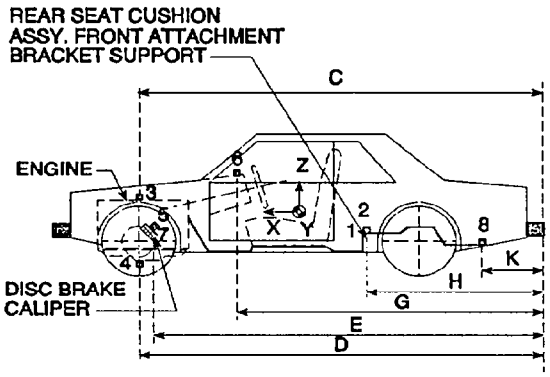
* Vehicle equipped with air bag, manual seat belt not used for this position.

Figure 4

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



TOP VIEW



LEFT SIDE VIEW

ACCELEROMETER NUMBER*	ACCELEROMETER LOCATION	DIRECTION		
		X	Y	Z
1	Left Rear Seat Crossmember	X		
2	Right Rear Seat Crossmember	X		
3	Top of Engine	X		
4	Bottom of Engine	X		
5	Right Disc Brake Caliper	X		
6	Instrument Panel	X		
7	Left Disc Brake Caliper	X		
8	Trunk Z			X

*The accelerometer pack number can be correlated with the vehicle response data traces found in Appendix B.

Table 5

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

DIMENSION	LENGTH (Inches)	
	PRE-TEST VALUES	POST-TEST VALUES
A Left Rear Seat Crossmember Y	16.2	16.2
B Right Rear Seat Crossmember Y	16.2	16.2
C Top of Engine X	156.0	152.3
D Bottom of Engine X	157.3	153.7
E Disc Brake Calipers X	145.3	Right = 143.3 Left = 144.8
F Disc Brake Calipers Y	22.2	22.4
G Instrument Panel X	111.6	113.3
H Rear Seat Crossmembers X	74.2	74.2
K Trunk X	10.0	10.0

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	4.0	117.6	-34.3	57.8
2	Rear Seat X-Member @ Right Side	4.3	117.4	-35.9	55.0
3	Top of Engine Block	18.0	43.6	-86.8	36.7
4	Bottom of Engine *	171.5	28.4	-190.5	58.2
5	Disc Brake Caliper @ Right Side	49.8	57.0	-101.9	41.0
6	Instrument Panel	11.6	80.2	-58.8	47.4
7	Disc Brake Caliper @ Left Side	14.1	103.2	-79.4	48.1
8	Trunk	20.6	58.3	-22.2	87.2

* Data questionable after 22 msec., wire damaged.

Figure 5

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera Information shown on Table 6.

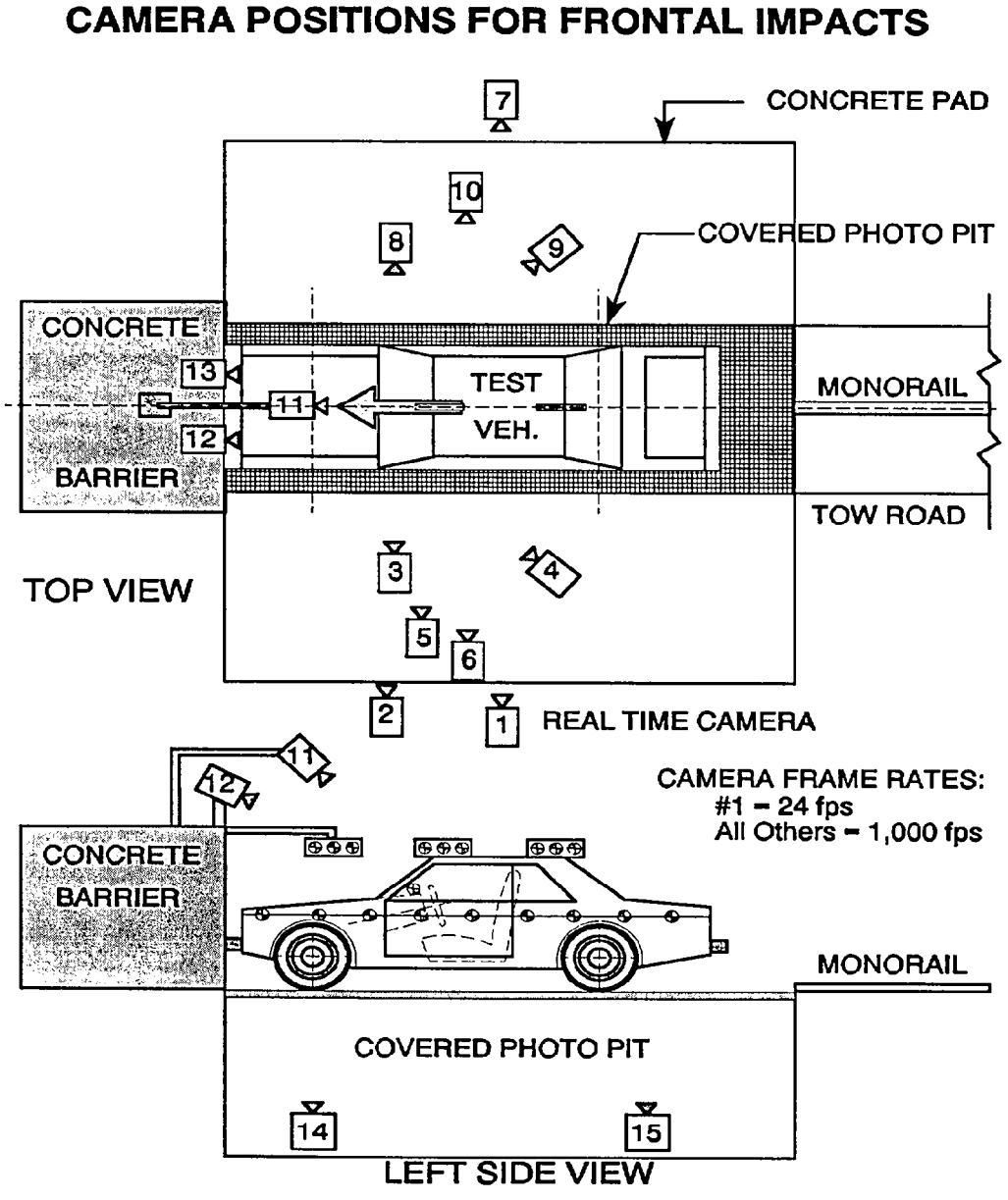


Table 6

HIGH-SPEED CAMERA LOCATIONS

Test No. CS0310 Vehicle: 1995 Dodge Avenger 2-door coupe

Camera No.	VIEW	CAMERA POSITIONS (In.)* X	Y	Z	ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	233	77	41	-1	216.7	13	1010
3	Left Side View	309	39	41	-2	292.7	25	1000
4	Driver and Interior View	103	124	70	-21	-	13	1000
5	Steering Column (Bottom)	278	91	46	-5	261.7	25	1100
6	Steering Column (Top)	278	91	70	-11	261.7	25	1100
7	Overall Right Side	238	80	42	-3	221.7	13	1050
8	Right Side View	313	63	41	-2	296.7	25	1040
9	Passenger and Interior View	101	117	70	-24	-	13	1100
10	Right Passenger View	302	74	55	-5	-	35	905
11	Windshield View	10	0	127	-60	-	13	1050
12	Driver Front View	22	21	71	-46	-	8	1000
13	Passenger Front View	21	21	72	-48	-	8	1000
14	Pit View of Engine	39	0	-86	90	-	13	1000
15	Pit View of Fuel Tank	114	0	-86	90	-	13	930

*X = film plane to monorail centerline
Y = film plane to impact location
Z = film plane to ground
** = referenced to horizontal plane

Figure 6

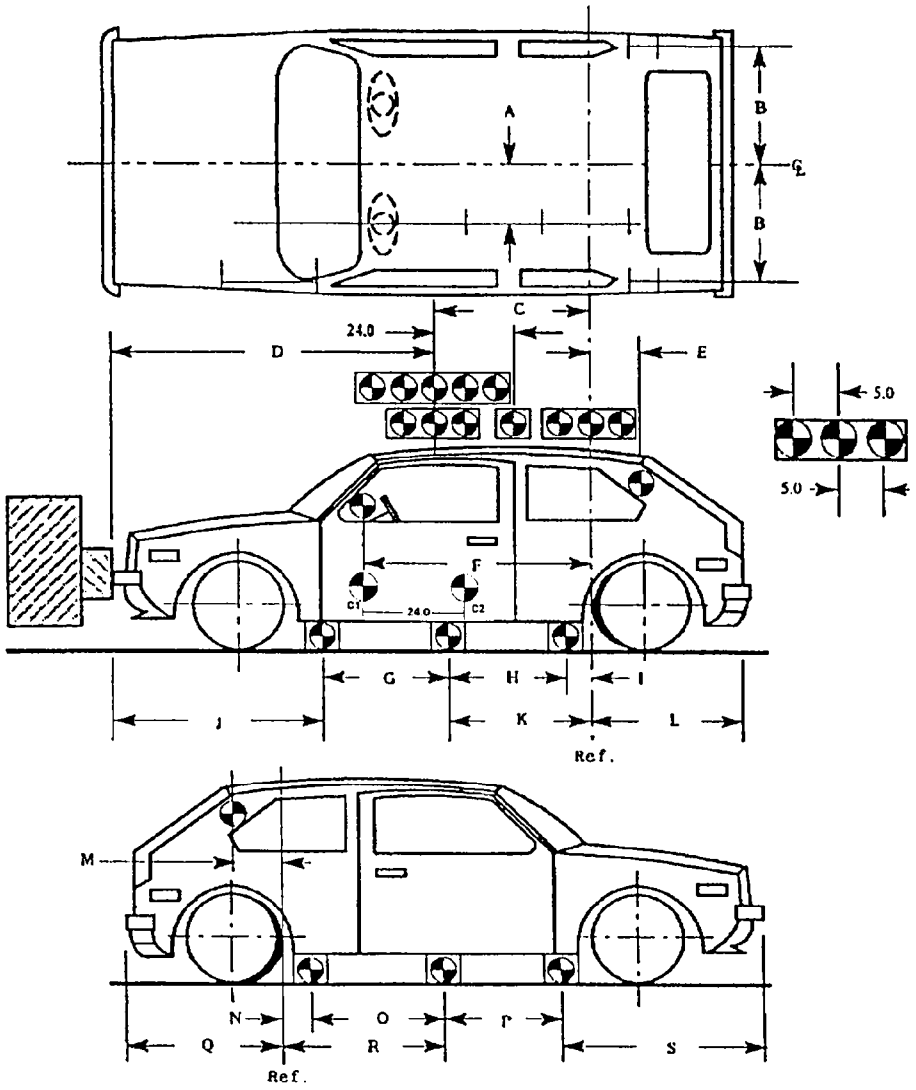
VEHICLE TARGET LOCATIONS
(All dimensions in inches)

Key (Inches)

A = 13.3
B = 22.8

C = 48.0
D = 82.3
E = 12.0
F = 58.9
G = 33.3
H = 33.3
I = 5.0
J = 58.3
K = 38.3
L = 57.6

M = 12.0
N = 4.8
O = 33.3
P = 33.3
Q = 57.6
R = 38.1
S = 58.5



Note: Targets on front fender are 12.0 inches apart.
Targets rearward of front fender are 24.0 inches apart. Targets on front door correspond to C1 and C2 according to TP-208-09.

Figure 7

TEST VEHICLE MEASUREMENTS

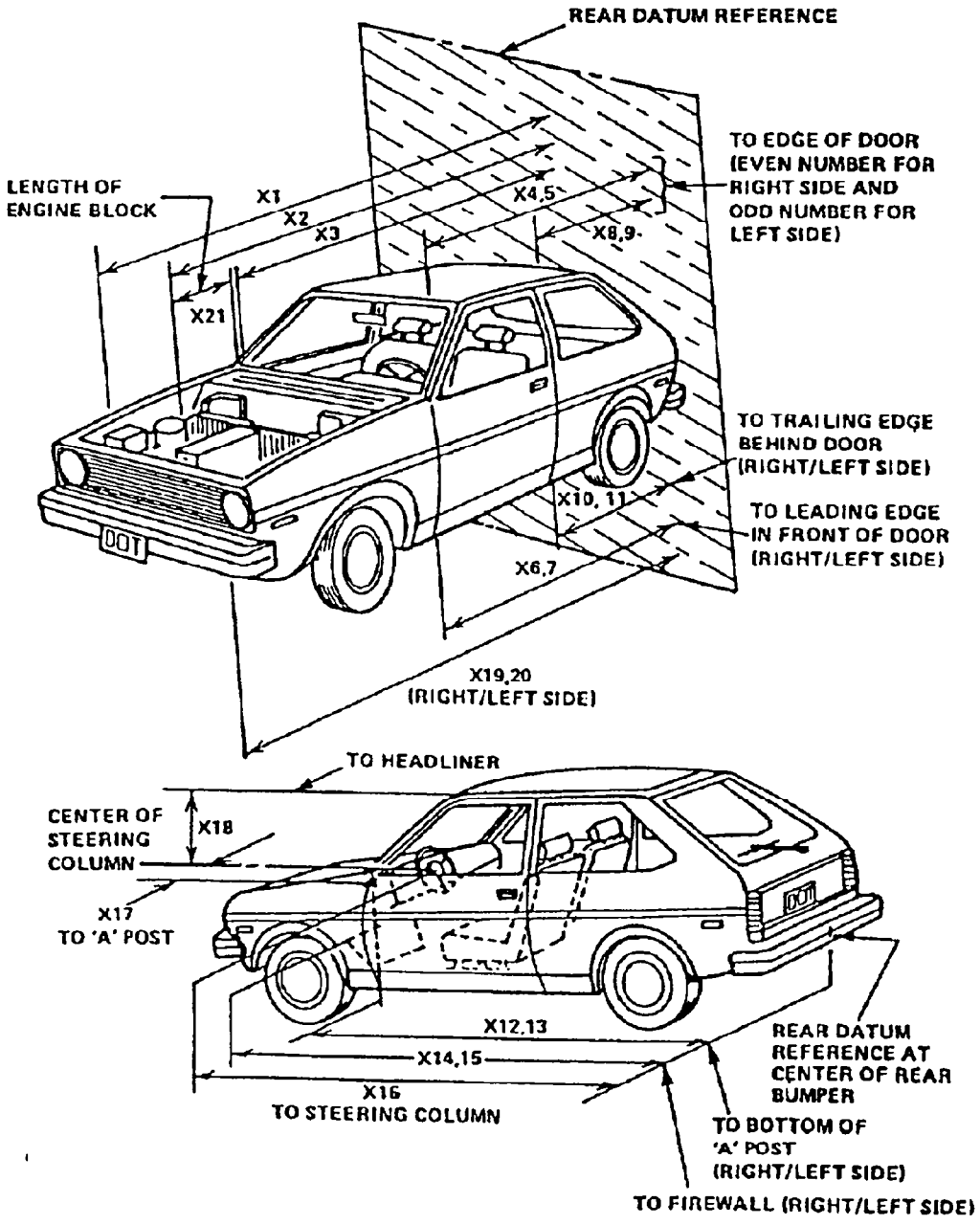


Table 7

VEHICLE MEASUREMENTS

		All Dimensions in inches		
No.		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	187.5	170.6	16.9
X2	Rear Surface of Vehicle to Front of Engine	168.1	163.0	5.1
X3	Rear Surface of Vehicle to Firewall	142.8	139.5	3.3
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	127.3	127.5	-0.2
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	127.4	127.8	-0.4
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	127.8	126.6	1.2
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	127.7	126.8	0.9
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	78.4	78.5	-0.1
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	78.6	79.1	-0.5
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	81.3	80.4	0.9
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	81.2	80.6	0.6
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	129.4	128.3	1.1
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	129.6	128.3	1.3
X14	Rear Surface of Vehicle to Firewall, Right Side	142.2	140.0	2.2
X15	Rear Surface of Vehicle to Firewall, Left Side	142.0	141.0	1.0
X16	Rear Surface of Vehicle to Steering Column	109.0	110.0	-1.0
X17	Center of Steering Column to "A" Post	16.0	16.0	0.0
X18	Center of Steering Column to Headliner	16.4	16.0	0.4
X19	Rear Surface of Vehicle to Right Side of Front Bumper	181.5	171.0	10.5
X20	Rear Surface of Vehicle to Left Side of Front Bumper	181.5	172.7	8.8
X21	Length of Engine Block	21.0	21.0	0.0

Section 4

SUMMARY OF RESULTS OF FMVSS NOS. 208, 212, 219 AND 301-75

- "Occupant Crash Protection," FMVSS No. 208 Data
- "Windshield Mounting," FMVSS No. 212 Data
- "Windshield Zone Intrusion," FMVSS No. 219 (Partial) Data
- "Fuel System Integrity," FMVSS No. 301-75

Table 8

DUMMY INJURY CRITERIA VALUES

NHTSA No. : CS0310 Vehicle : 1995 Dodge Avenger 2-door coupe

	MAXIMUM ACCELERATION (g's)								
	HEAD				CHEST				
	X	Y	Z	R	X	Y	Z	R*	Displacement
Dummy (1)	-44.4	5.7	17.0	45.2	-46.5	-6.6	-5.8	45.007	0.8
Dummy (2)	-49.3	20.7	30.5	54.2	-27.6	-12.8	-7.2	26.917	0.4

	MAXIMUM FORCE - FEMUR LOAD (lbs.)	
	LEFT FEMUR	RIGHT FEMUR
Dummy (1)	-1262.9	-1779.5
Dummy (2)	-1629.4	-1334.7

	HEAD INJURY CRITERIA**			
		36 millisecond Maximum		Avg. Acc (g)
	HIC	t_1 (msec)	t_2 (msec)	t_1 TO t_2
Dummy (1)	195.91	49.560	84.240	31.68
Dummy (2)	165.83	52.080	87.960	29.24

* Defined as exceeding 0.003 sec. duration
**As defined in FMVSS No. 208

Table 9

FMVSS NO. 208 - SEAT BELT WARNING SYSTEM CHECK

With occupant in driver's position, the lap belt in stowed position, and ignition switch placed in "Start/On" position:

Log time duration of audible warning signal = 6.0 sec.

Log time duration of reminder light operation = 6.0 sec.

With occupant in driver's position, lap belt in use, and the ignition switch placed in "Start/On" position :

Log time duration of audible warning signal = 0.0 sec.
(audible warning should not operate)

Log time duration of reminder light operation = 6.0 sec.

Note wording of visual warning :

Fasten Seat Belt -

Fasten Belt -

Symbol 101 X

Table 10

FMVSS NO. 208 - LABELING AND DRIVER'S MANUAL INFORMATION

Locate label which describes manufacturers maintenance or replacement schedule for crash-deployed occupant protection system.

Describe location :

Label located on outside panel of driver and passenger sunvisors.

There is no description of maintenance or replacement schedule for the supplemental restraint system on the label. However, the label does give reference to the owner's manual which reads, "The SRS system must be inspected 10 years after the date of vehicle manufacture, located on the certification label at driver side, center pillar."

Were appropriate instructions concerning maintenance and/or replacement of this system provided ?

YES X NO -

Was a description of the functional operation of the system provided ?

YES X NO -

Is there a reference to the instructions and description of the system on the label ?

YES X NO -

Was an owner's manual provided ? YES X NO -

Did the owner's manual contain appropriate information concerning maintenance and/or replacement and a description of the functional operation of the system ?

YES X NO -

Table 11

FMVSS NO. 208 - READINESS INDICATOR

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement.

Is the system totally mechanical ? YES - NO X

Describe the location of the readiness indicator :

Readiness indicator located at top left of instrument cluster.

Is the readiness indicator clearly visible to the driver ? YES X NO -

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided ?

YES X NO -

Table 12

FMVSS NO. 208 - COMFORT AND CONVENIENCE TEST SUMMARY

Test Vehicle NHTSA No. :	CS0310
Make/Model :	1995 Dodge Avenger 2-door coupe
Date of Comfort/Convenience Check :	1-19-94
Technician Performing Check :	R.E.
GVWR :	3925

Seat belt comfort and convenience requirements cover vehicles manufactured on or after September 1, 1986, which have a gross vehicle weight rating of 10,000 pounds or less. Exemptions to this rule are belts installed in a walk-in, van-type vehicle and manual Type 2 belt systems installed in the front outboard seating positions of passenger automobiles. On or after September 1, 1989, the exemption of the type 2 manual seat belts installed in the front outboard seating positions of passenger automobiles will change depending on the states' enactment of mandatory usage laws.

Was vehicle built after or on September 1, 1986, and is it equipped with :

1. Automatic seat belts — YES - NO X

If yes, go to requirements D1, D2, and D3

2. Manual seat belts* — YES X NO -

a. The seat belts, other than Type 2 lap/shoulder belts, are located in the front outboard seating positions of a passenger automobile.

YES X NO -

(Go to requirements D3, D4, D5, and D6)

b. The seat belt system is Type 2 lap/shoulder belt in the front outboard seating positions or the seat belts are located in a walk-in van.

STOP

* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Table 12 (cont.)

D1
CONVENIENCE HOOKS

A convenience hook or other device is provided to stow seat belt webbing to facilitate entering or exiting the vehicle.

YES - NO X

Check the option which applies to this test vehicle:

1. A convenience hook or other device automatically releases the webbing when the automatic belt system is operational and remains in the released mode as long as the vehicle's ignition switch is moved to the "on" or "start" position and the vehicle's drivetrain is engaged.

YES N/A NO N/A

2. A convenience hook or other device automatically releases the webbing when the automatic belt system is operational and remains in the released mode as long as the vehicle's ignition switch is moved to the "on" or "start" position and the vehicle's parking brake is in the released mode (non-engaged)

YES N/A NO N/A

D2
WEBBING TENSION - RELIEVING DEVICE

The seat belt assembly installed in the outboard designated seating position has either manual or automatic tension relieving devices permitting the introduction of slack in the webbing of the shoulder belt ("comfort clips" or "window shade" devices).

YES - NO X

Check the owner's manual and determine the maximum amount of slack recommended by the manufacturer in inches. The recommended slack is N/A inches. Introduce this slack into the shoulder belt before testing the vehicle to comply with the requirements of FMVSS 208 S5.1. A warning is included in the owner's manual that introducing slack beyond the amount specified can significantly reduce the effectiveness of the shoulder belt.

YES N/A NO N/A

(If NO, provide explanation.)

Check the option which applies to this test vehicle:

1. This vehicle is equipped with automatic seat belts and the tension relieving device is cancelled each time the adjacent door is opened.

YES N/A NO N/A

(If NO, provide explanation.)

Table 12 (cont.)

2. This vehicle is equipped with manual belts, required to meet FMVSS 208 S4.6, and the tension relieving device is cancelled each time one of the following options occurs:

a. The adjacent door is opened. YES N/A NO N/A

b. The latch plate is released from the buckle. YES N/A NO N/A

3. This is an open-body vehicle, without doors. Does the manual mean to cancel any shoulder belt slack introduced by a tension relieving device to operate properly ?

YES N/A NO N/A

(If NO, provide explanation.)

D3
BELT CONTACT FORCE

1. Do not measure the belt contact force if the manual or automatic seat belt assemblies in this vehicle incorporate a webbing tension relieving device. Does the vehicle incorporate a tension relieving device?

YES - NO X

2. Seat are adjusted according to instructions in Appendix B.

YES X NO -

3. The test dummies are positioned according to dummy position placement instructions in Appendix B and Appendix C.

YES X NO -

4. Close the vehicle's adjacent door, pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest, then fasten the latch. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. Measure the contact force exerted by the belt webbing on the dummy's chest. The contact force is 0.3 pounds. Contact the COTR if the contact force exceeds 0.7 pounds.

Table 12 (cont.)

D4
LATCHPLATE ACCESSIBILITY

1. Position the test dummy in the driver's seat or passenger's seat in its forward most adjustment position.

YES X NO -

2. Attach the inboard and outboard reach string. YES X NO -

3. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. With the latchplate in the normal stowed position, check to assure that the latchplates are within the reach envelope.

YES X NO -

4. Using the clearance test block, determine if there is sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latchplate or buckle.

YES X NO -

D5
RETRACTION

1. Seats and seat backs are adjusted according to instructions in Appendix B "General Test Conditions" in TP-208-09, dated March 15, 1993.

YES X NO -

2. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B and restrain the dummies, using the belt systems for the positions being tested.

YES X NO -

3. Outboard armrests which are capable of being stowed on vehicle seats shall be placed in their stowed positions.

YES X NO -

4. Check the option which applies to this test vehicle:

a. The torso and lap belt webbing of the seat belt system automatically retract to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.

YES X NO -

Table 12 (cont.)

b. The torso and lap belt webbing of the seat belt system automatically retract when the seat belt latchplate is released.

YES X NO -

5. With the webbing and hardware in the stowed position, close the door to assure that the webbing and hardware are prevented from being pinched.

YES X NO -

6. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, check to assure that the belt system fully retracts when the tension-relief device is manually deactivated.

YES N/A NO N/A

D6
ACCESSIBILITY

The requirements for accessibility do not apply to:

1. Seats whose seat cushions are removable so that the seat back serves a function other than seating;
2. Seats which are removable;
3. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, then determine if:

1. Each manual seat belt assembly whose webbing is designed to pass through the seat cushion or between the seat cushion and seat back has one of the following three parts (the seat belt latchplate, the buckle, or the seat belt webbing) on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant).

YES N/A NO N/A

2. The remaining two seat belt parts are accessible under normal conditions.

YES N/A NO N/A

Table 12 (cont.)

3. The buckle and latchplate pass through the guides or conduits provided and do not fall behind the seat when the following events occur in order:

   a. The belt is completely retracted or, if the belt is non-retractable, the belt is unattached.

   YES N/A NO N/A

   b. The seat is moved to any position to which it is designed to be adjusted.

   YES N/A NO N/A

   c. The seat back, if foldable, is folded forward as far as possible and then moved backward into positions.

   YES N/A NO N/A

4. Is the inboard receptacle end of the seat belt assembly which is installed in the outboard designated seating position accessible with the center arm rest in any position to which it can be adjusted without moving the armrest?

   YES X NO -

D7
LATCH MECHANISM

A seat belt assembly installed in a passenger car, except an automatic belt assembly, shall have a latch mechanism:

1. Whose components are accessible to a seated occupant in both the stowed and operational positions.

   YES X NO -

2. That releases both the upper torso restraint and the lap belt simultaneously, if the assembly has a lap belt and an upper torso restraint that require unlatching for release of the occupant.

   YES X NO -

3. That releases at a single point by a push button action.

   YES X NO -

Figure 8

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA SHEET

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC. :

The windshield is bonded in place with 0.6" rubber modling along top and sides of windshield periphery. Bottom of windshield is bonded with 0.3" Rubber and a plastic shroud.

FMVSS 212 REQUIREMENTS :

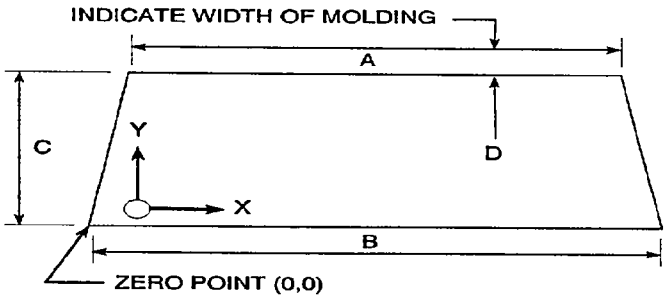
The Post - Test periphery retention amount must be at least 75% of the Pre - Test periphery measurement for vehicle NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 TEST DATA :

	WINDSHIELD PERIPHERY		
	PRE - TEST (in.)	POST - TEST (in.)	PERCENT RETENTION
RIGHT SIDE	84.0	82.0 *	97.6
LEFT SIDE	84.0	84.0	100.0
TOTAL	168.0	166.0	98.8

* Windshield glazing tear 8.5 inches from right bottom corner, 2.0 inches in length.

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

FAILURE DETAILS : _____

_____

Figure 9

FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA SHEET

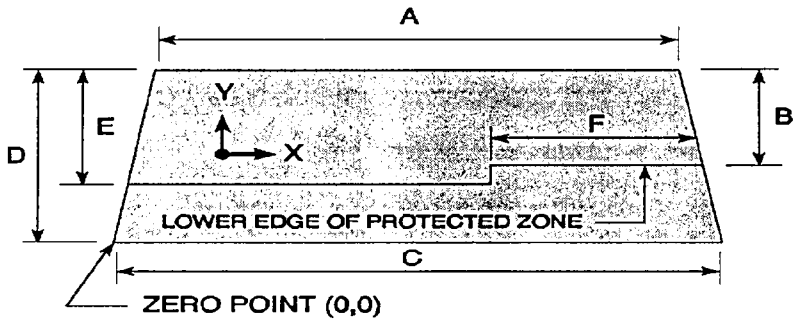
PROTECTED ZONE LOWER EDGE REQUIREMENT :

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 1/2" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield

FMVSS 219 TEST DATA : (Dimensions in inches.)

KEY:

A= 43.0
B= 17.6
C= 59.0
D= 31.0
E= 19.3
F= 27.0



FRONT VIEW OF WINDSHIELD

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4" :

(Show location of penetration on above sketch)

	COORDINATES	
	X	Y
1		
2		
3		
4		

Table 13

FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

FMVSS NO. 301

TEST VEHICLE NHTSA NO. : CS0310 TEST DATE : January 21, 1995

Vehicle Mfgr./Make/Model : 1995 Dodge Avenger 2-door coupe

Test vehicle fuel tank filled to 92% to 94% of manufacturer's "usable" capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

****

TEST VEHICLE IMPACT TYPE :

- X Frontal (30 mph)
- \- Oblique (30 mph) with - °barrier face first contacting - (driver/passenger) side
- \- Rear Moving Barrier (30 mph)
- \- Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT:

	ACTUAL	MAX ALLOWED
1. From impact until vehicle motion ceases	0	1 oz.
2. For five minute period after vehicle motion ceases	0	5 oz.
3. For next 25 minutes	0	1 oz./1 min.

SOLVENT SPILLAGE DETAILS :

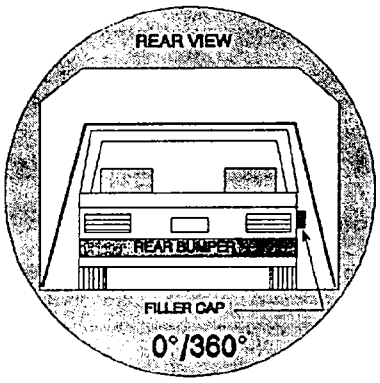
None

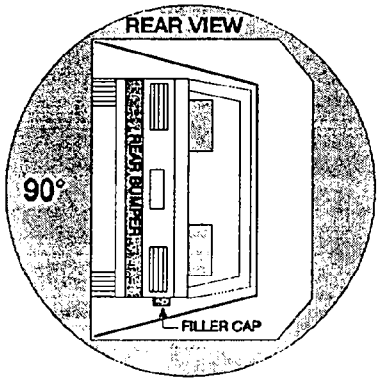
Table 14

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE :
0-90 Deg.

Vehicle NHTSA ID No. :
CS0310





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	45	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	45	seconds
Next whole minute interval	7	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE :

0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

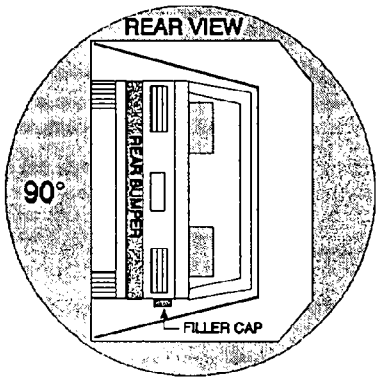
IV. SOLVENT SPILLAGE LOCATION(S) :

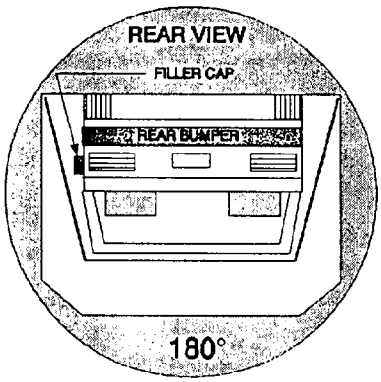
None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE :
90-180 Deg.

Vehicle NHTSA ID No. :
CS0310





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		1	minutes	57	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	6	minutes	57	seconds
Next whole minute interval		7	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE :

0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

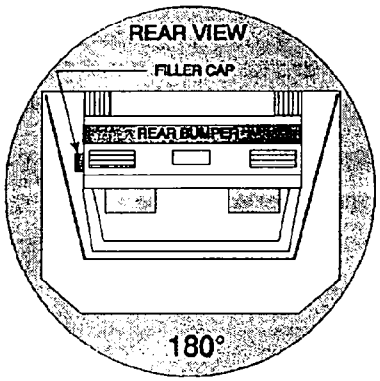
IV. SOLVENT SPILLAGE LOCATION(S) :

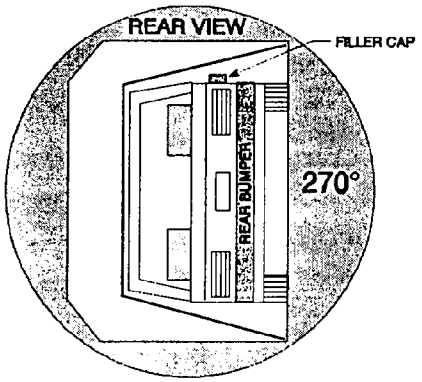
None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE :
180-270 Deg.

Vehicle NHTSA ID No. :
CS0310





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		2	minutes	03	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	7	minutes	3	seconds
Next whole minute interval		8	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE :

0	0	0	0

Note: Record spillage for whole minute intervals only as determined above.

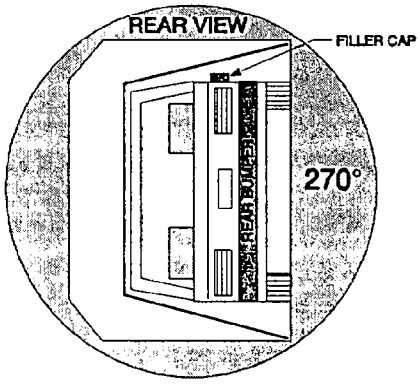
IV. SOLVENT SPILLAGE LOCATION(S) :

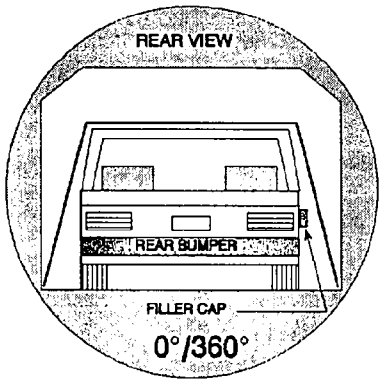
None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE :
270-360 Deg.

Vehicle NHTSA ID No. :
CS0310





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		1	minutes	48	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	6	minutes	48	seconds
Next whole minute interval		7	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE :

0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S) :

None

Table 15

POST TEST AIR BAG DATA

NHTSA No. : CS0310; Test Date: January 21, 1995; Technician: R. E.

Vehicle Model Year/Make/Model: 1995 Dodge Avenger

A. No. of vent holes: 2 -Driver 2 -Passenger

B. Size of vent holes: ($In.^2$) 1.3 -Driver 4.9 -Passenger

C. Total vent area: ($In.^2$) 2.6 -Driver 9.8 -Passenger

D. Deflated air bag length and width dimensions or, if round,diameter. (In inches)

Driver: - -Length; - -Width; 27.5 -Diameter

Passenger: 18.5 -Height; 18.0 -Width; 26.5 -Depth

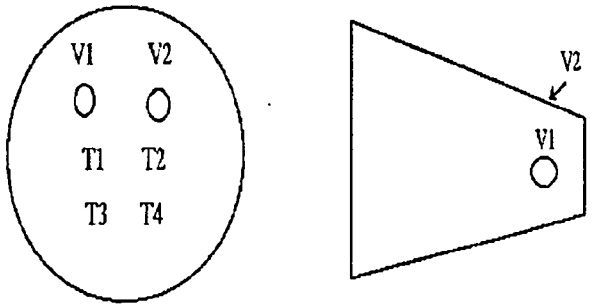
E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 9.3

Passenger: - -Yes; X -No; If yes, record length of tether- N/A

Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.
(Note: Not to scale; V_n = Vent hole$_n$, T_n = Tether$_n$).

Driver air bag (Front view) Passenger air bag (Right side view)



F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Generator: BDAEYH3ZEBX / BGAEYM5WBBF

Air bag: PUT11179-01F / TX943120360 / 291485R

Passenger: Generator: MR708098 MODULE ASSY / CMOE342H0007 / 2002337A

Air bag: N/A

G. Cut out a 6 inch by 6 inch swatch of the bag material and at least one tether from each bag, mark the vehicle's NHTSA number on the swatch, and send these parts to the COTR with the test report.

Table 16

ACCIDENT INVESTIGATION DIVISION DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1995 Dodge Avenger 2-door coupe

VEHICLE NHTSA NO. : CS0310 VIN NO. : 4B3AU42Y8SE119410

WHEELBASE: 104 in. BUILD DATE: Dec-94 TEST DATE: January 21, 1995

VEH SIZE CATEGORY: Mid-size TEST WEIGHT: 3370

FRONT OVERHANG: - OVERALL WIDTH: 69.3 in.

COLLISION DEFORMATION (CDC) CODE: 12FDEW2

IMPACT MODE: Zero degree 30 mph frontal barrier impact.

CRUSH DEPTH DIMENSIONS: (Inches)

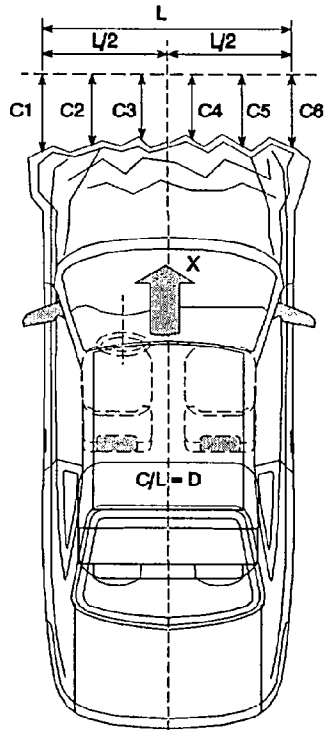
C1 = 6.9 C4 = 16.9

C2 = 14.6 C5 = 16.2

C3 = 16.4 C6 = 8.8

MIDPOINT OF DAMAGE: D=
(Vehicle Longitudinal Centerline) 28.75

LENGTH OF DAMAGE
REGION: L= 57.5



Remarks: -

Table 17
TEST VEHICLE NONCOMPLIANCE NOTICE

NHTSA Contract Lab : Calspan Advanced Technology Center

Lab Project Manager & Telephone No. : David J. Travale (716) 632 - 7500

Date of Test : January 21, 1995 Vehicle NHTSA No. : CS0310

Vehicle Manufacturer : DIAMOND STAR MOTORS CORPORATION

Model Year : 1995 VIN : 4B3AU42Y8SE119410

Model : Avenger Body Style: 2-door coupe Build Date : Dec-94

Dummy Stabilized Temperature at Time of Test : 70 °F (Spec. = 69 - 72 °F)

Impact Velocity : 29.4 mph; Time of Test : 9:40

Type of Automatic Restraint System :

Driver : Air bag

Passenger : Air bag

Failure Details :

Requirements :

Approximate date that final test report will be made available to CTM:

Date Mfg. Rep. Notified : Rep. Name:

Remarks:

Date of Proposed Joint Inspection of Test Vehicle :

NHTSA CMT : CIR No.: Date :

Appendix A

PHOTOGRAPHS

LIST OF PHOTOGRAPHS

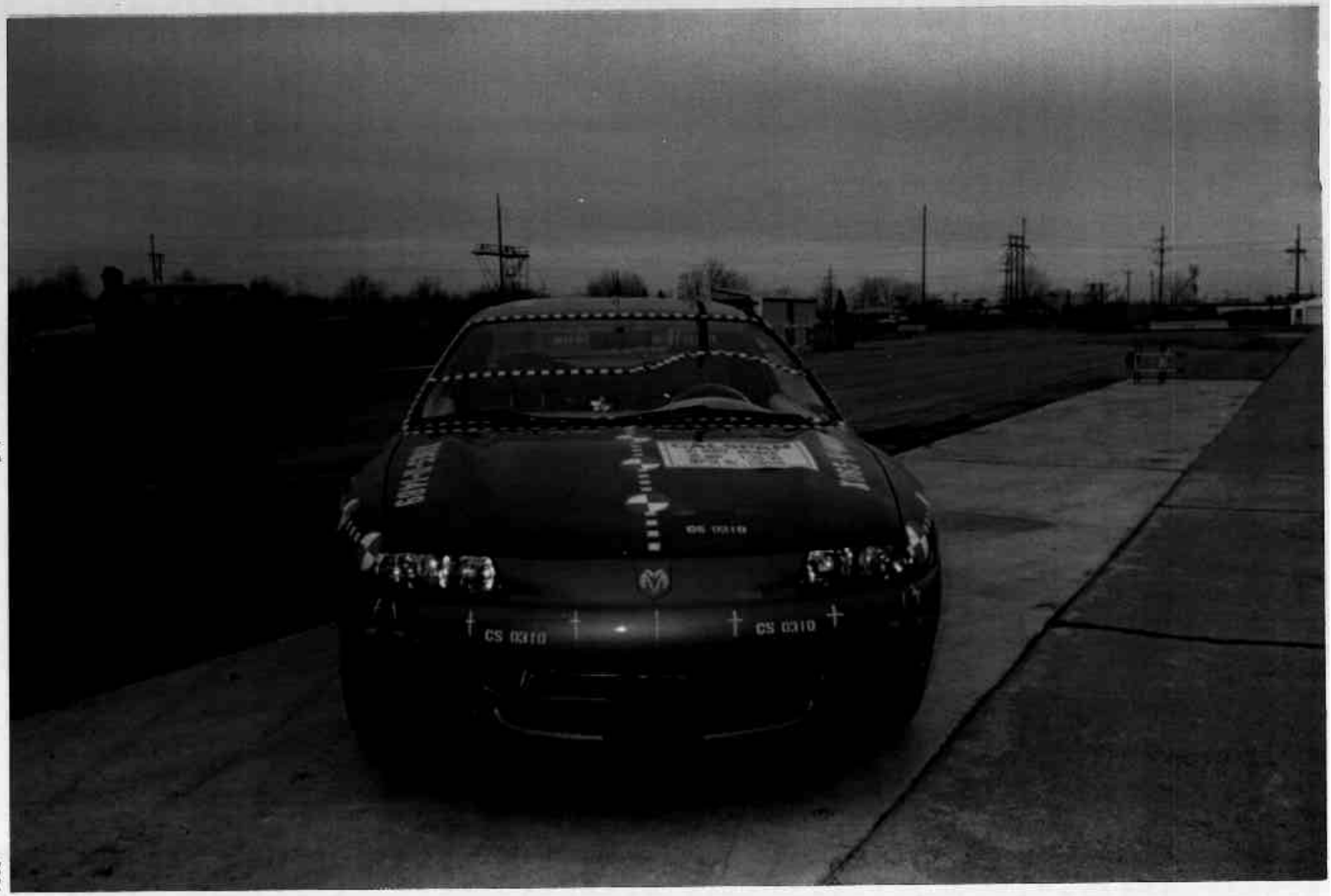


Figure A-1 PRE-TEST FRONT VIEW

Figure A-2 POST-TEST FRONT VIEW

Figure A-3 PRE-TEST LEFT SIDE VIEW

Figure A-4 POST-TEST LEFT SIDE VIEW

Figure A-5 PRE-TEST RIGHT SIDE VIEW

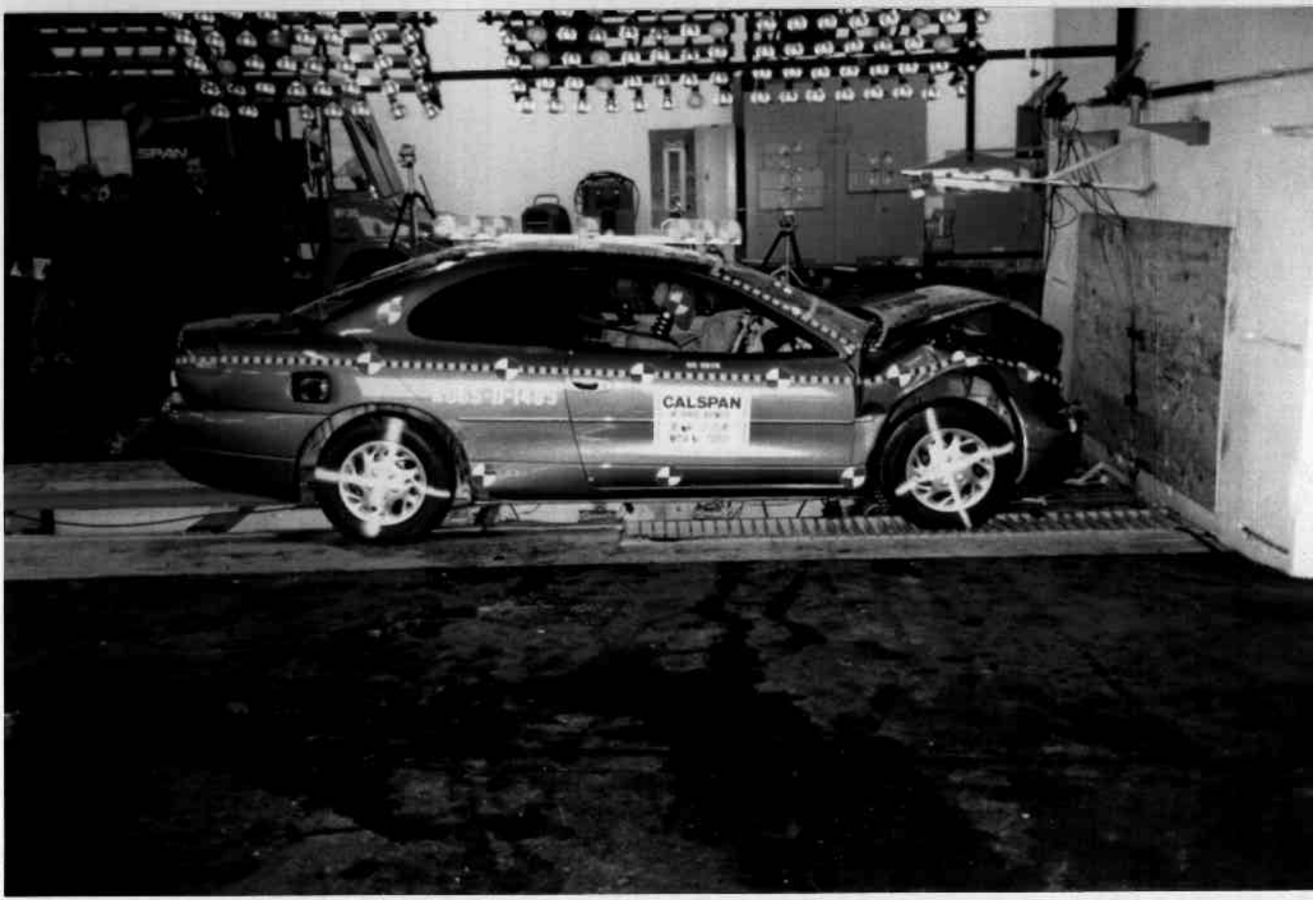


Figure A-6 POST-TEST RIGHT SIDE VIEW

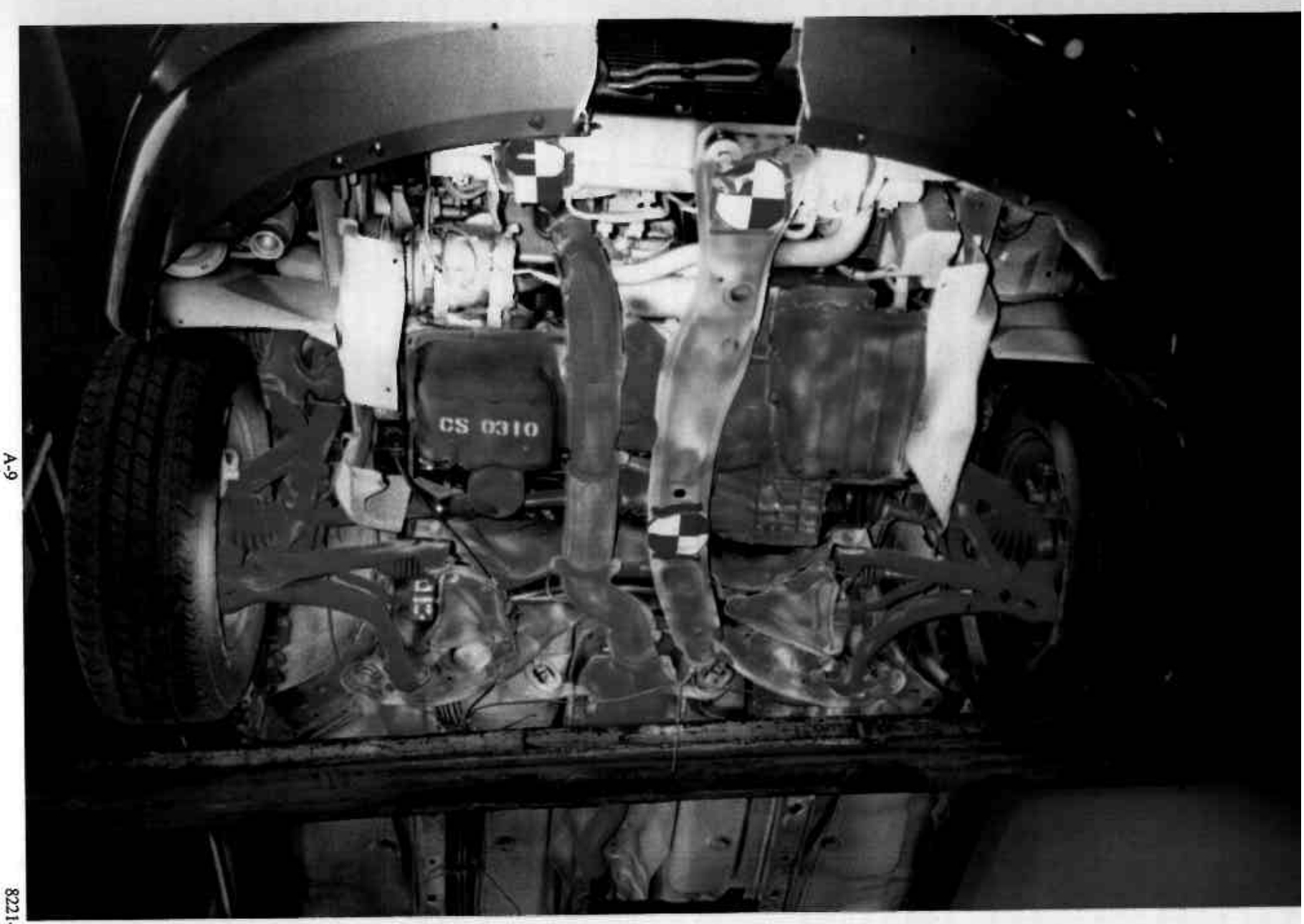


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Figure A-7 PRE-TEST FRONT UNDERBODY VIEW

Figure A-8 POST-TEST FRONT UNDERBODY VIEW

Figure A-9 PRE-TEST DRIVER SIDE VIEW

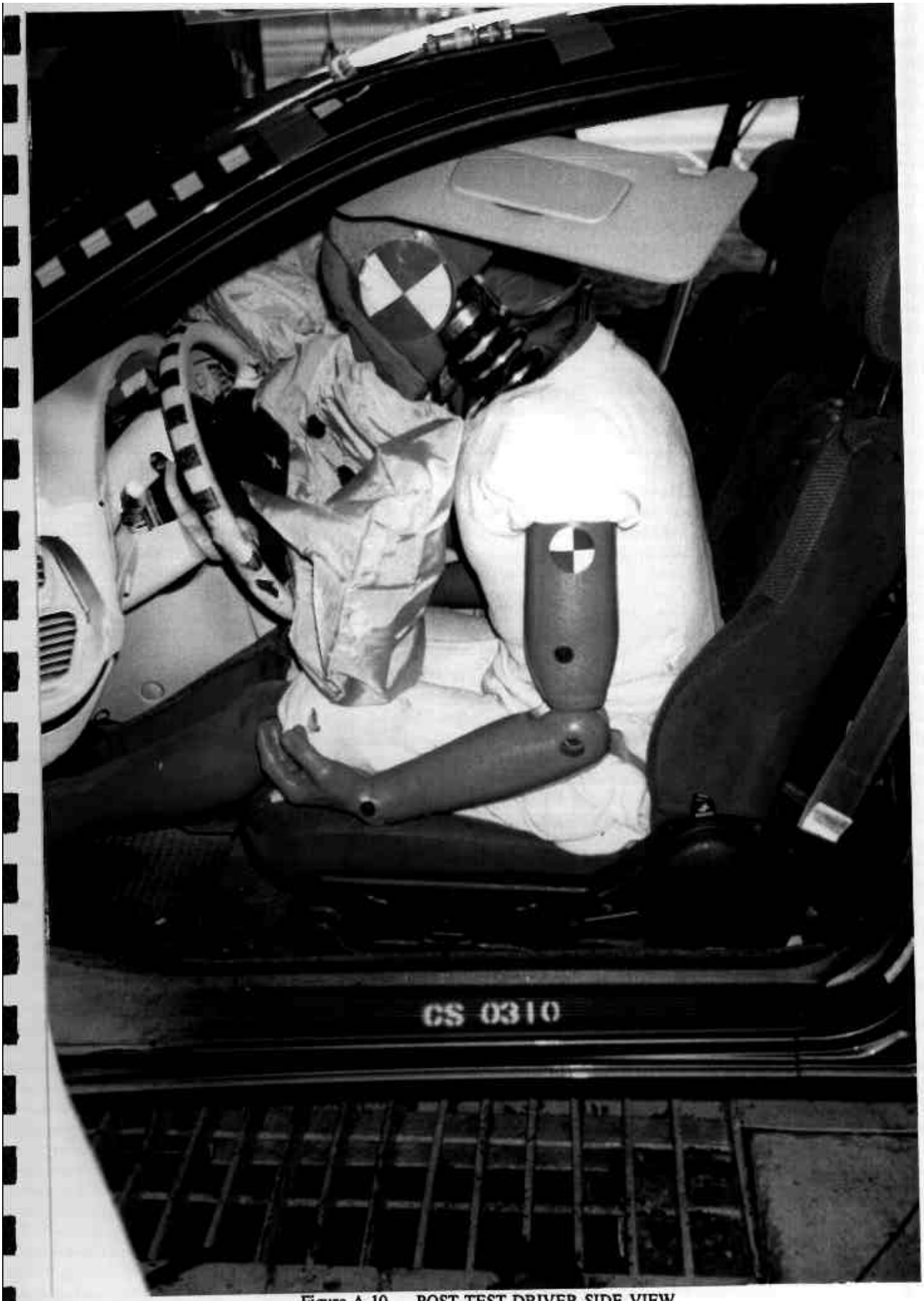

Figure A-10 POST-TEST DRIVER SIDE VIEW

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Figure A-11 PRE-TEST PASSENGER SIDE VIEW

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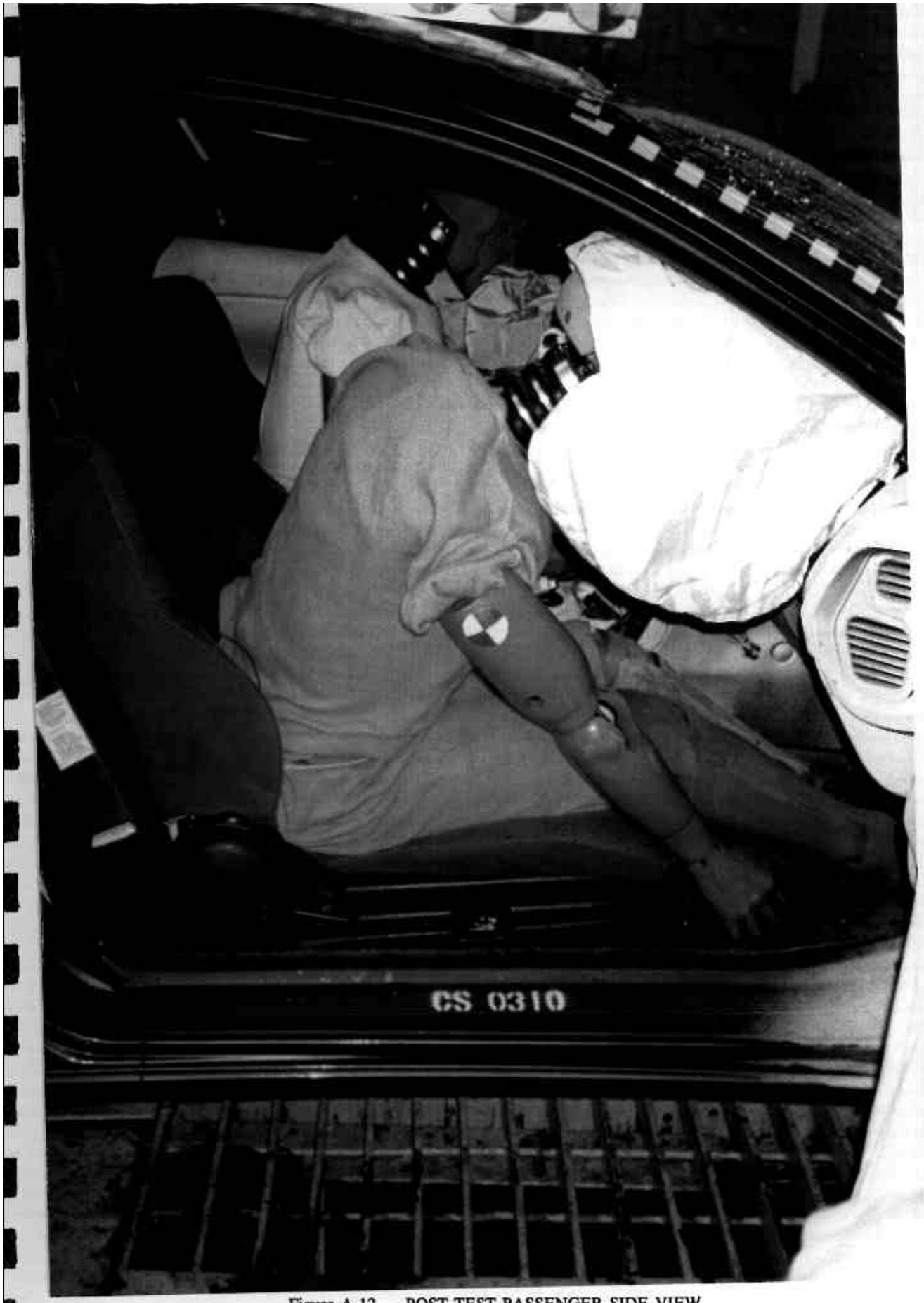


Figure A-12 POST-TEST PASSENGER SIDE VIEW

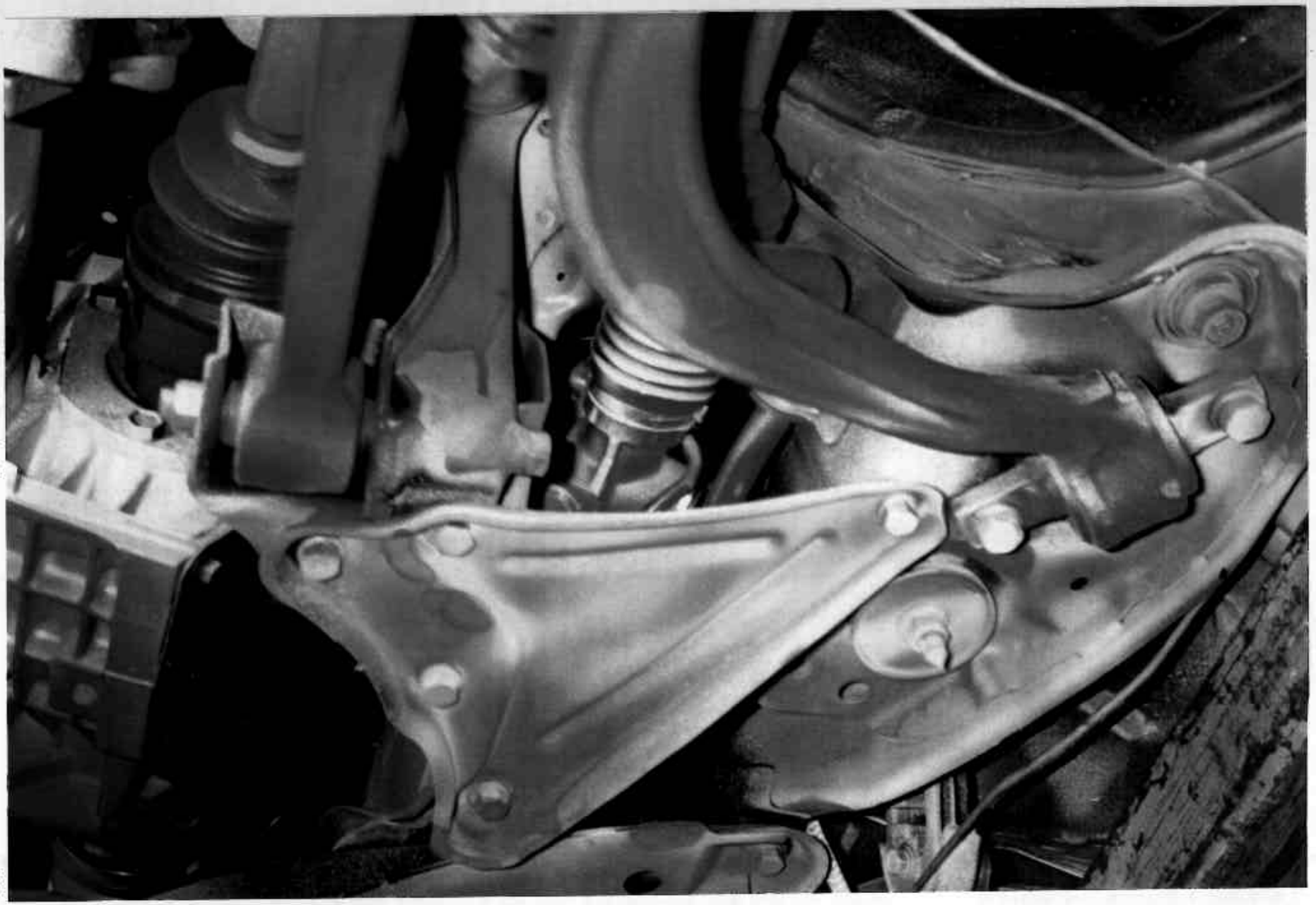


Figure A-13 PRE-TEST UNDERBODY STEERING SHAFT

PHOTOGRAPH NOT AVAILABLE

Figure A-14 POST-TEST UNDERBODY STEERING SHAFT

PHOTOGRAPH NOT AVAILABLE

Figure A-15 PRE-TEST STEERING COLUMN/FIREWALL INSIDE VIEW

Figure A-16 POST-TEST STEERING COLUMN/FIREWALL INSIDE VIEW

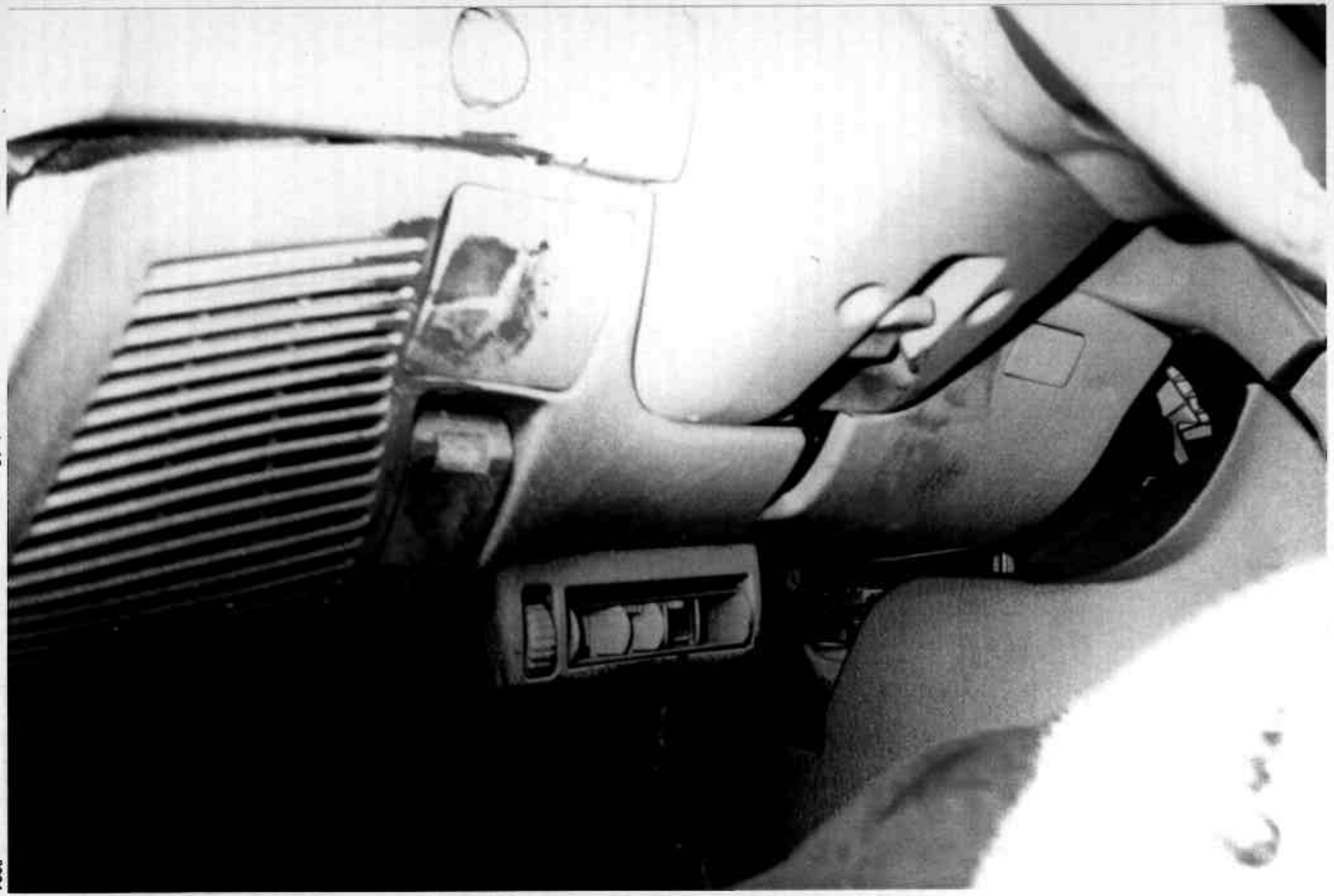


Figure A-17 POST-TEST DRIVER KNEE BOLSTER

Figure A-18 POST-TEST PASSENGER KNEE BOLSTER

Figure A-19 VEHICLE IMPACT

Figure A-20 CERTIFICATION PLACARD

Figure A-21 TIRE PLACARD

Figure A-22 POST-TEST DRIVER AIRBAG VIEW

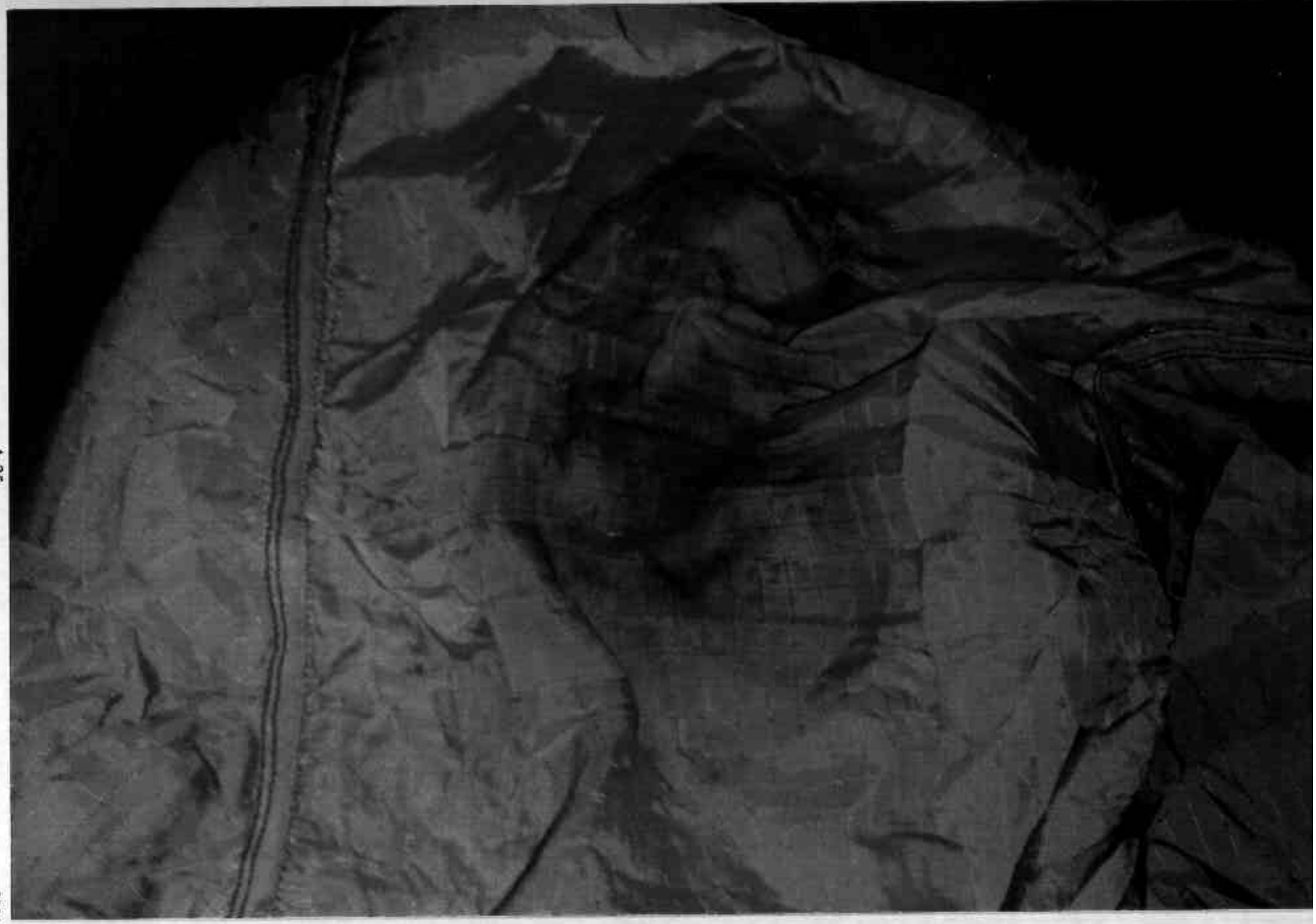


Figure A-23 POST-TEST PASSENGER AIRBAG VIEW

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

NOTE : Data trace scales are automatically scaled at the request of the COTR. Use caution when reviewing data.

TEST NO. CS0310

VEHICLE	SAE FILTER CHANNEL CLASS
	60

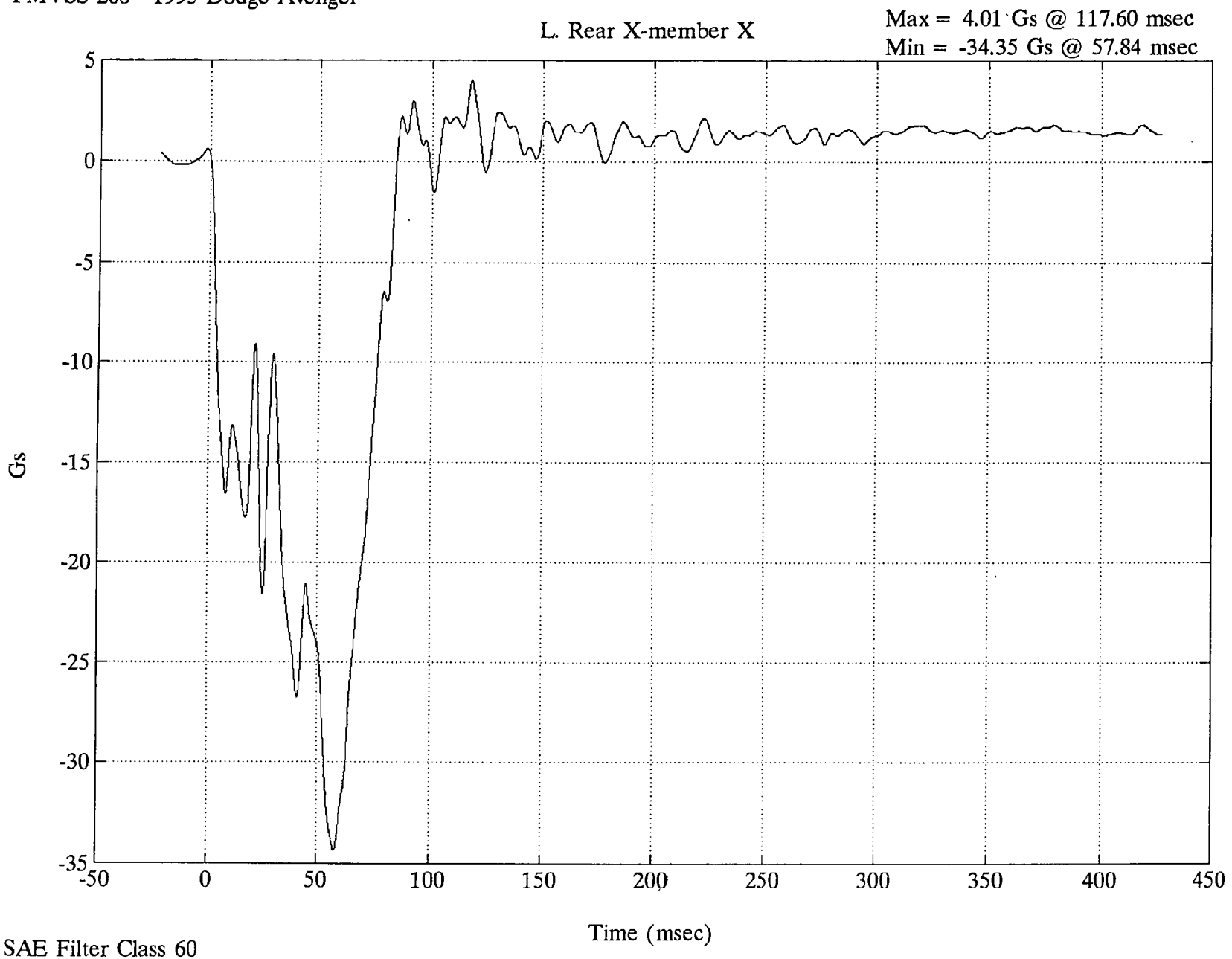
FACILITY: TRACK TEST DATE: 21 Jan 1995
RUN #: 1489 TEST TIME: 10:25:03
SERIES #: 16 BOARD: b

TITLE: 208 TEST #11 - 1995 DODGE AVENGER

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM AMP	MAXIMUM msec	MINIMUM AMP	MINIMUM msec	FILTER CLASS
1	Left Rear X-member X	Gs	4.0	117.6	-34.3	57.8	60.0
2	Right Rear X-member X	Gs	4.3	117.4	-35.9	55.0	60.0
3	Engine Top X	Gs	18.0	43.6	-86.8	36.7	60.0
* 4	Engine Bottom X	Gs	171.5	28.4	-190.5	58.2	60.0
5	Right Brake Caliper X	Gs	49.8	57.0	-101.9	41.0	60.0
6	Left Brake Caliper X	Gs	14.1	103.2	-79.4	48.1	60.0
7	Instrument Panel X	Gs	11.6	80.2	-58.8	47.4	60.0
8	Pos. 1 Chest Disp.	in	.0	8.9	-.8	86.3	180.0
9	Pos. 2 Chest Disp.	in	.1	38.5	-.4	60.6	180.0
10	Trunk Z	Gs	20.6	58.3	-22.2	87.2	60.0

* Data questionable after 22msec., wire damaged.

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 60

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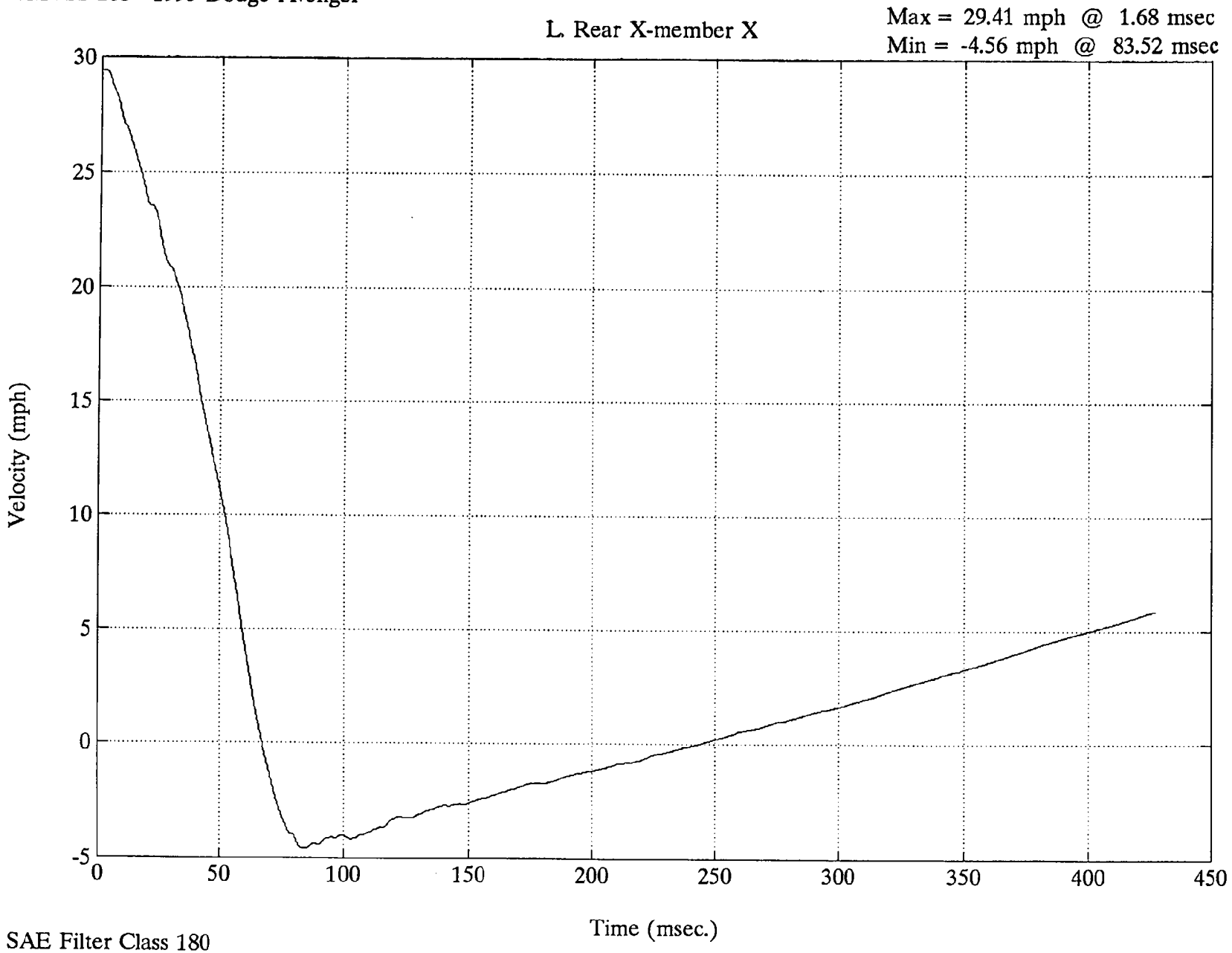
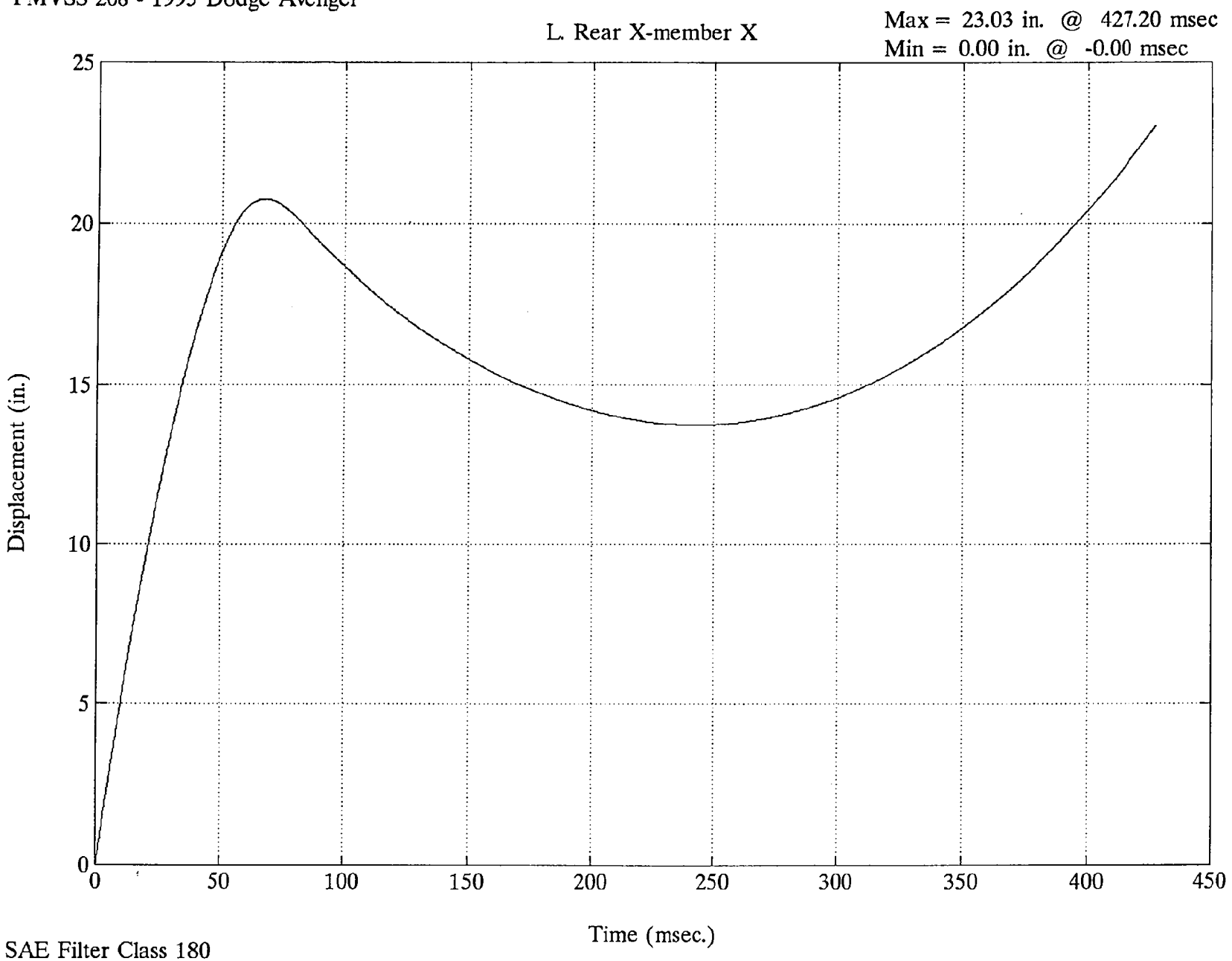
FMVSS 208 - 1995 Dodge Avenger



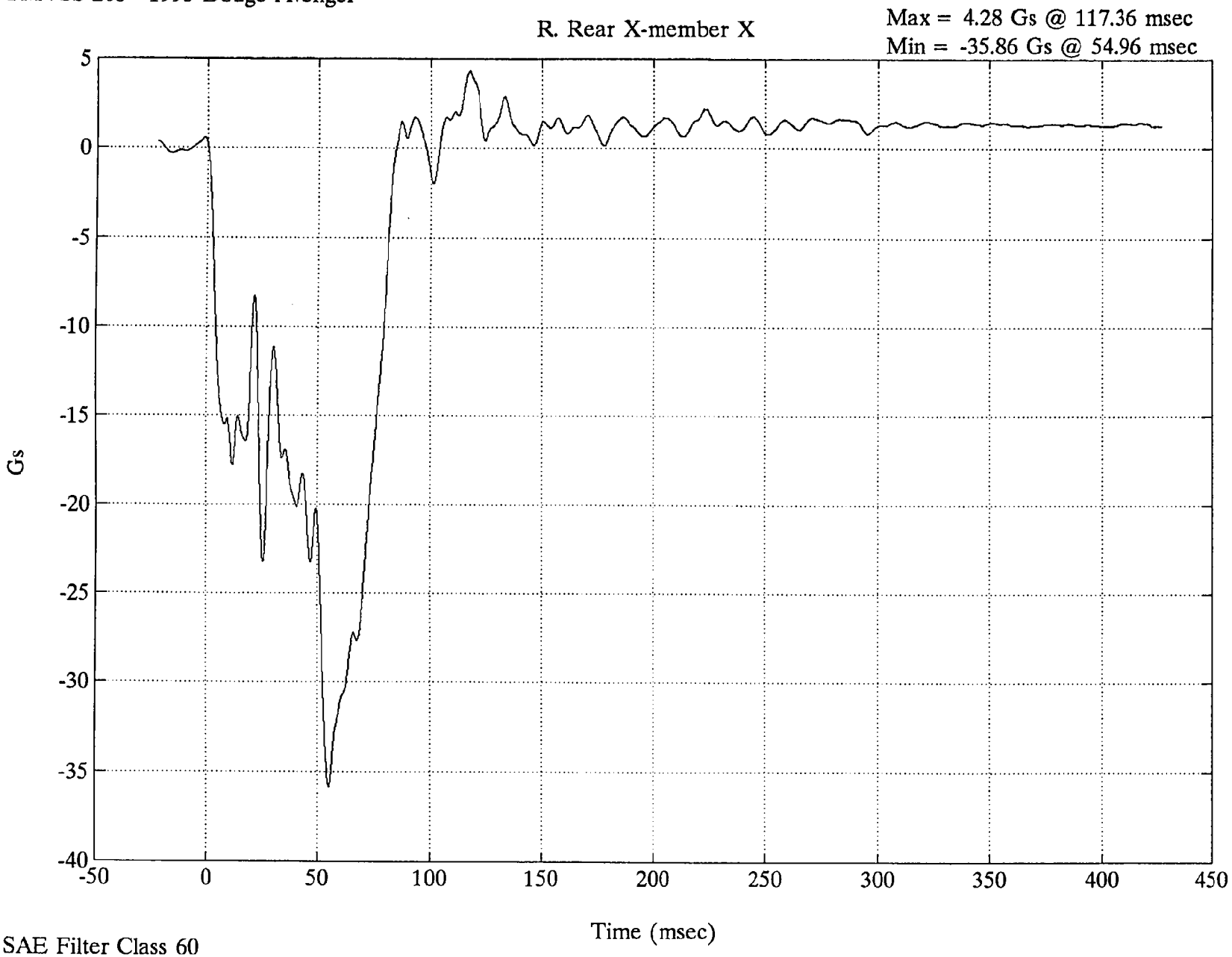
SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



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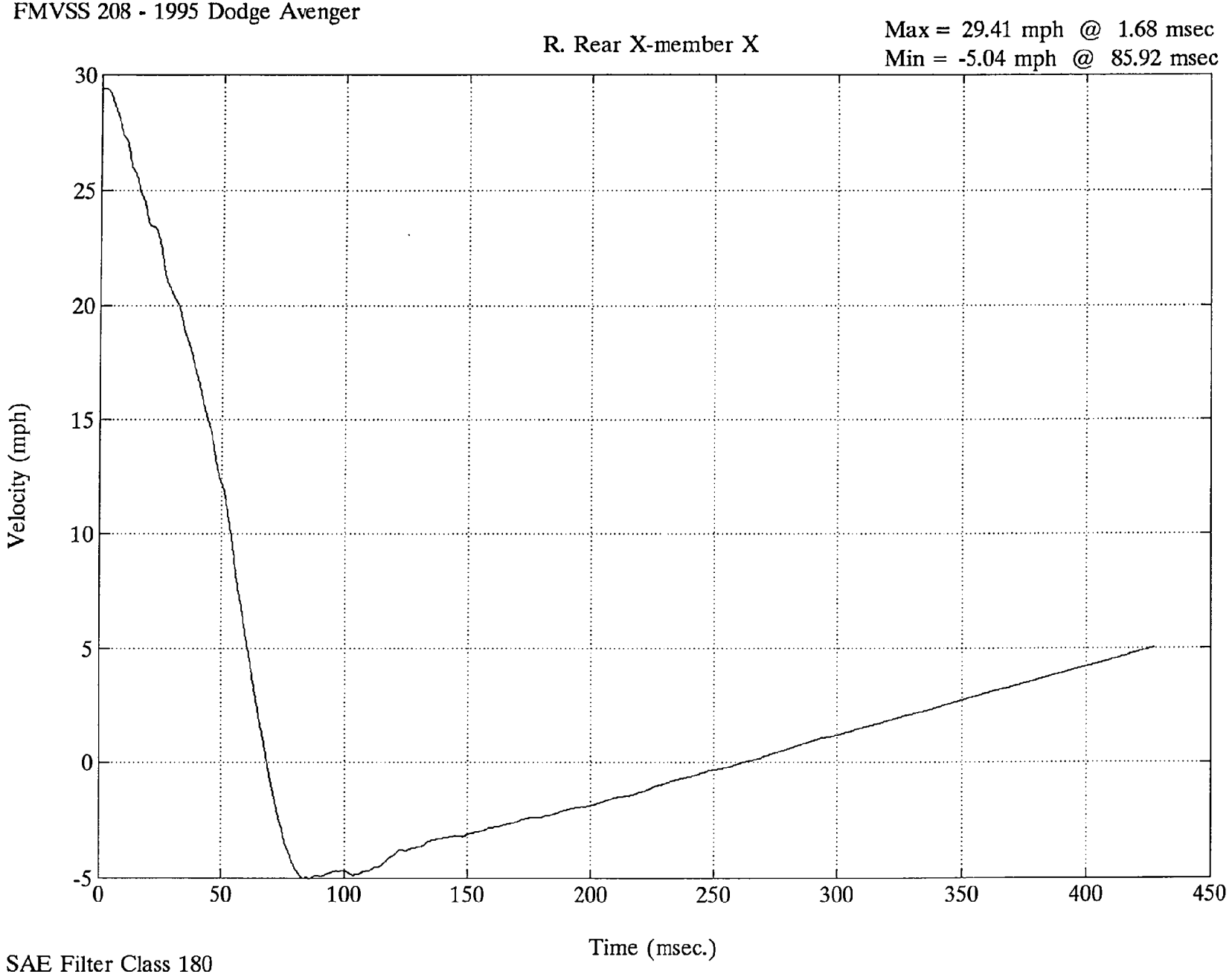
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

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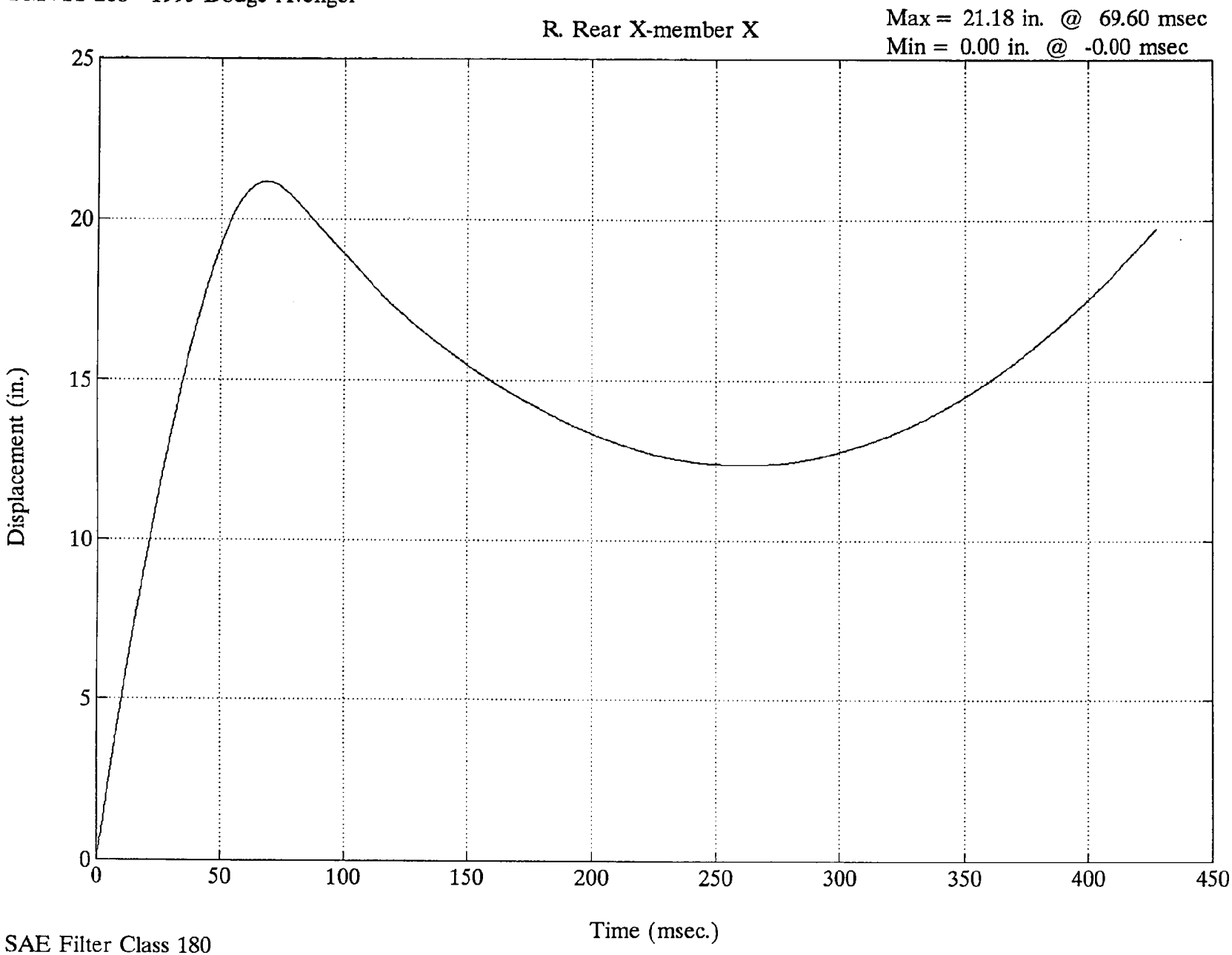
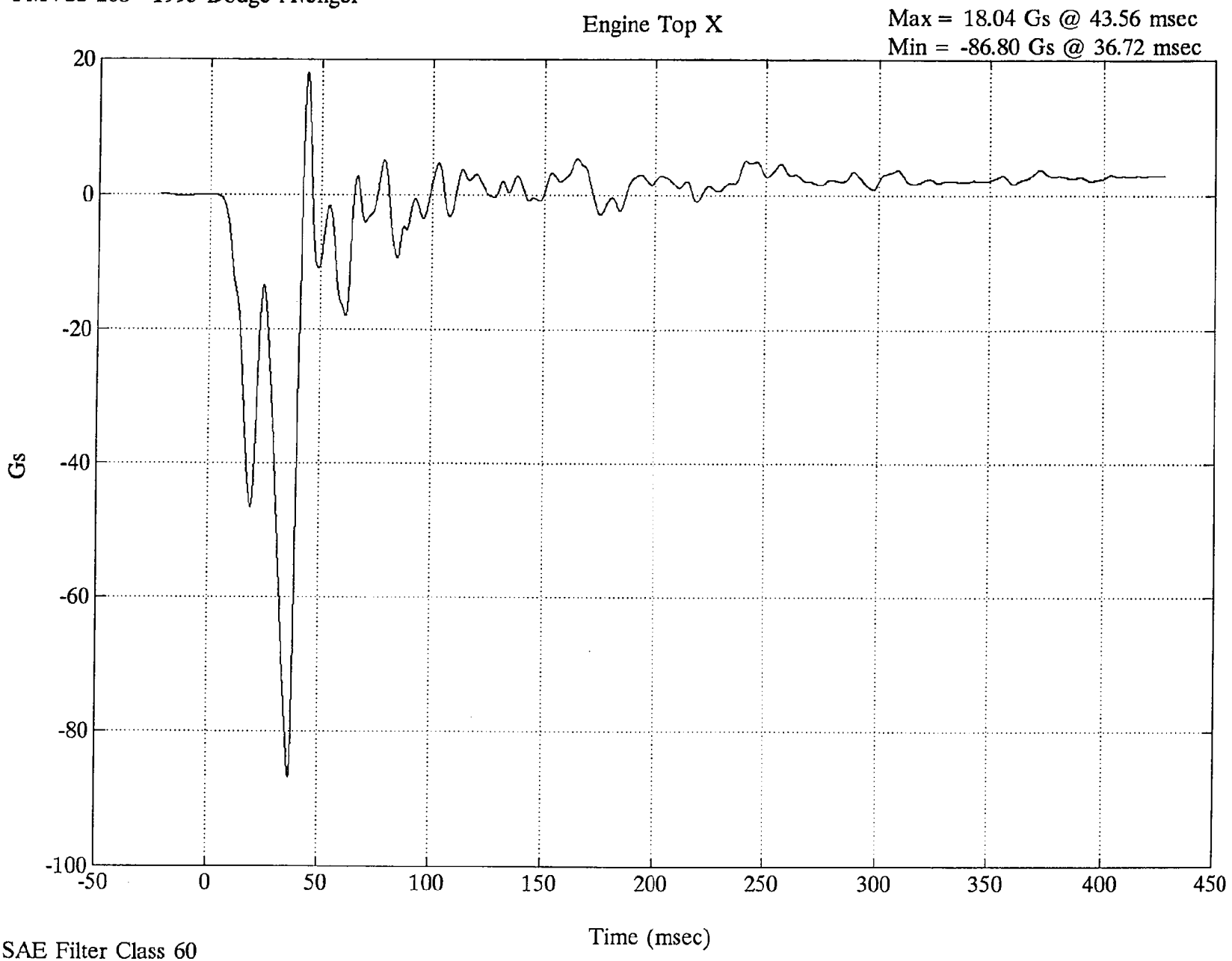
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



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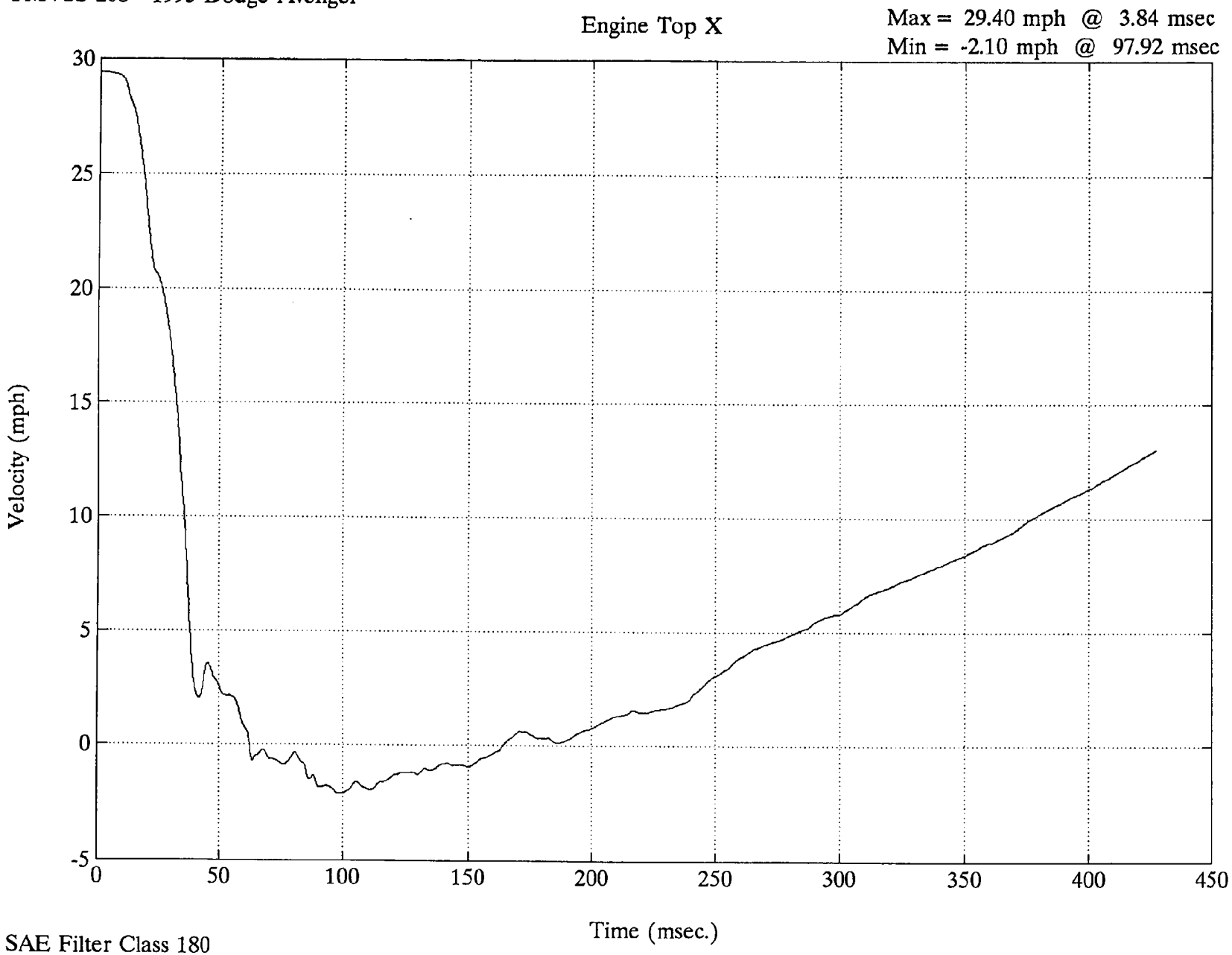
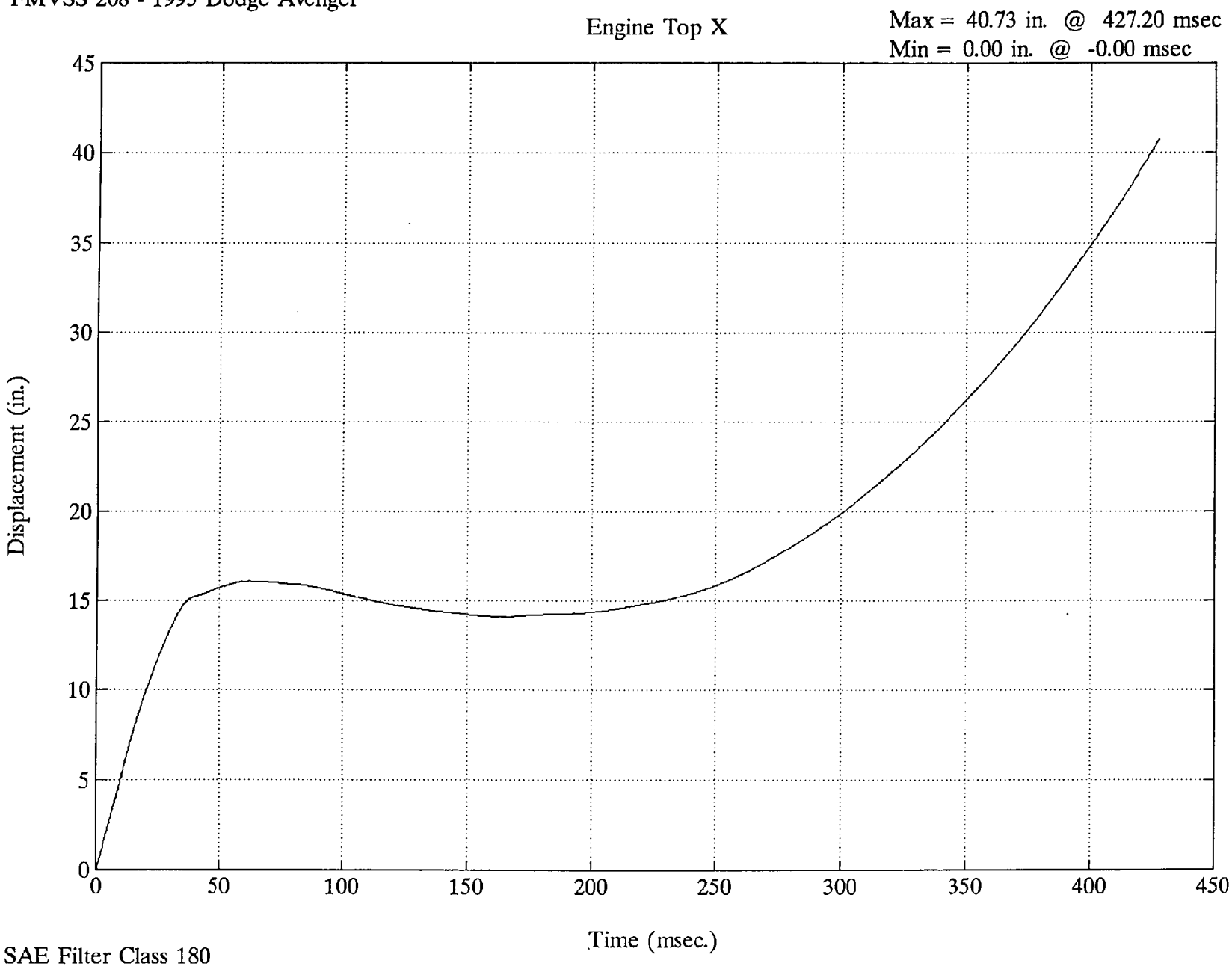
FMVSS 208 - 1995 Dodge Avenger



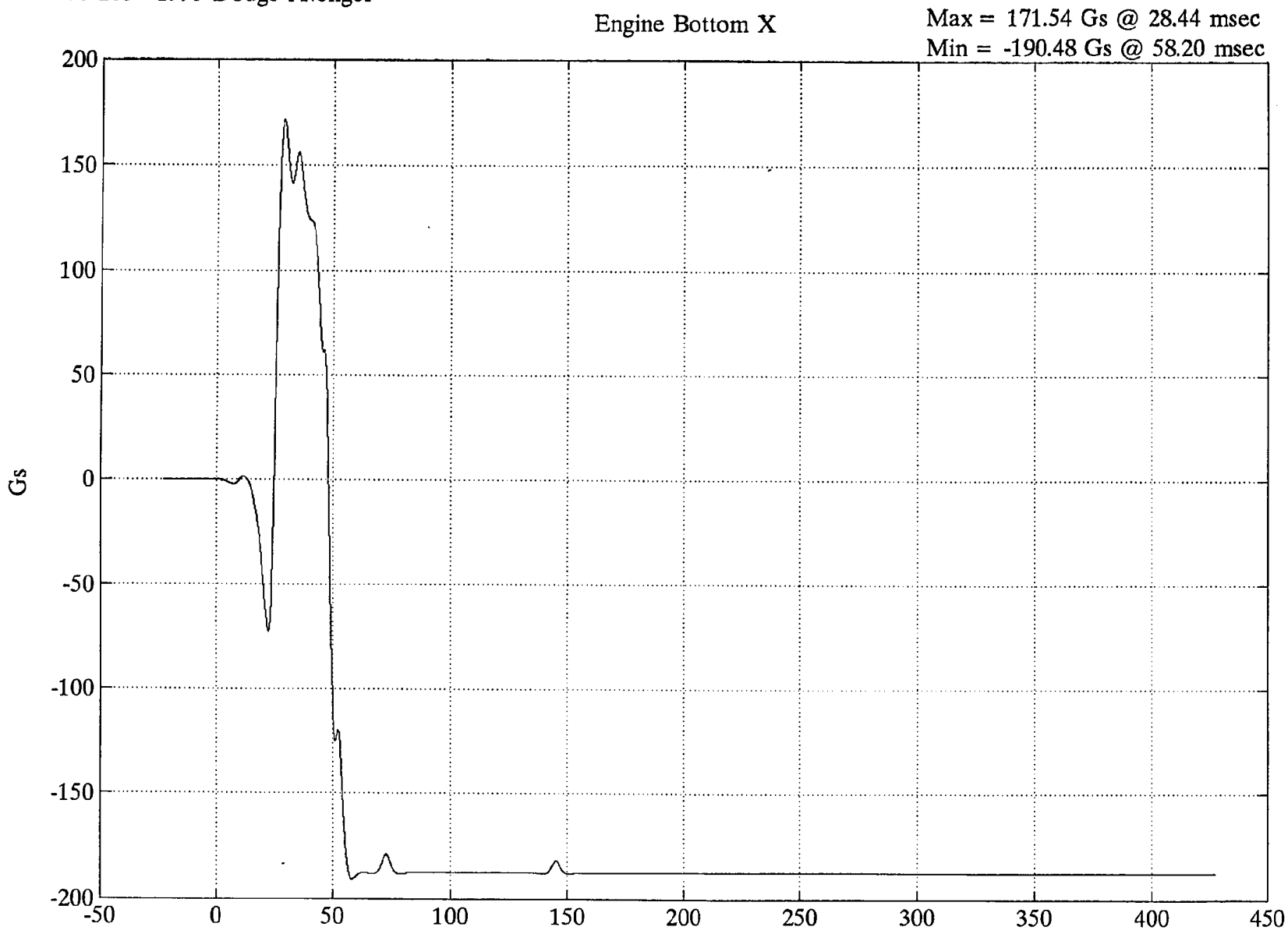
SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 60

Data questionable after 22msec., wire damaged

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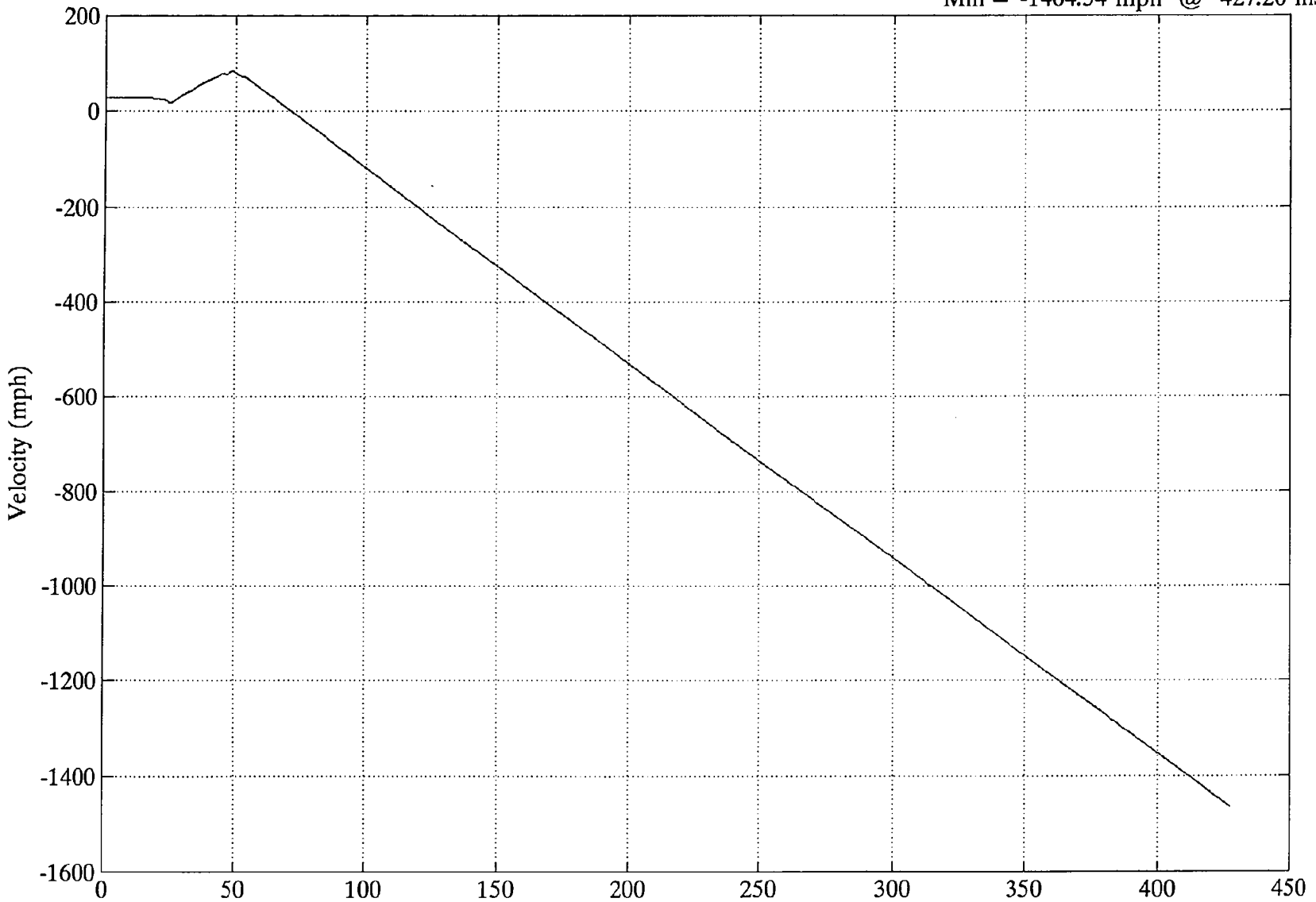
FMVSS 208 - 1995 Dodge Avenger

Engine Bottom X

Max = 84.82 mph @ 48.48 msec
Min = -1464.54 mph @ 427.20 msec



SAE Filter Class 180

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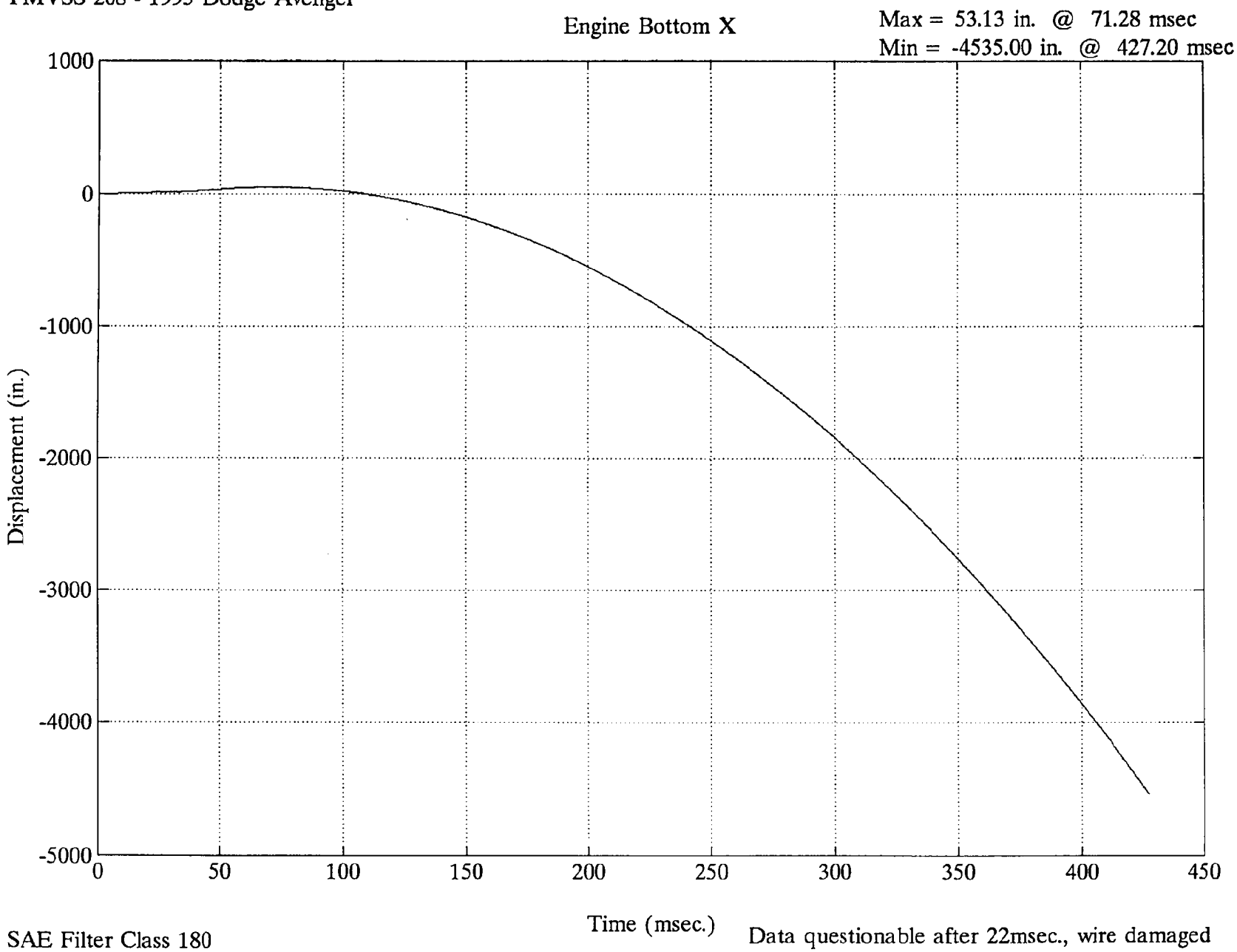
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

Data questionable after 22msec., wire damaged

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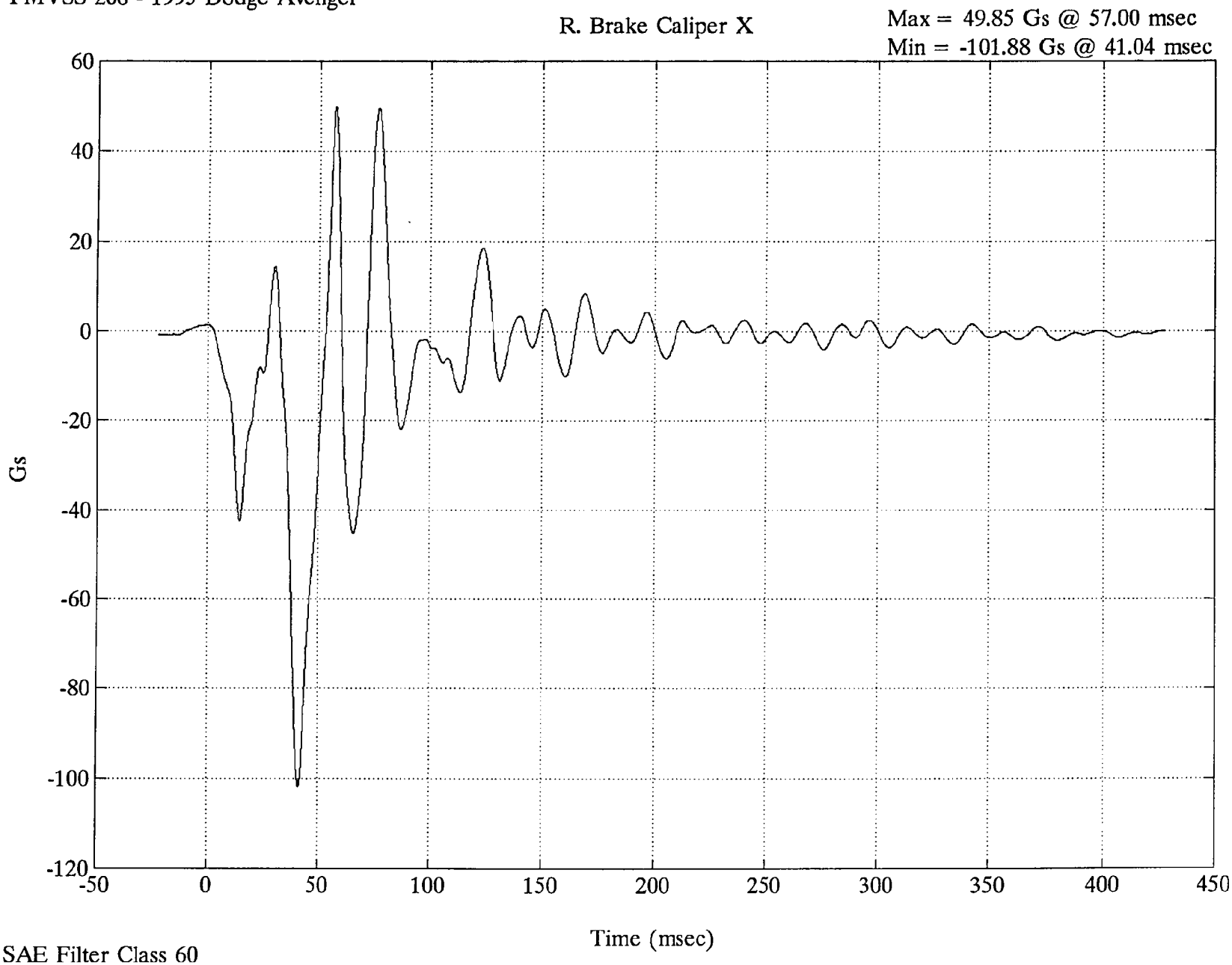
FMVSS 208 - 1995 Dodge Avenger



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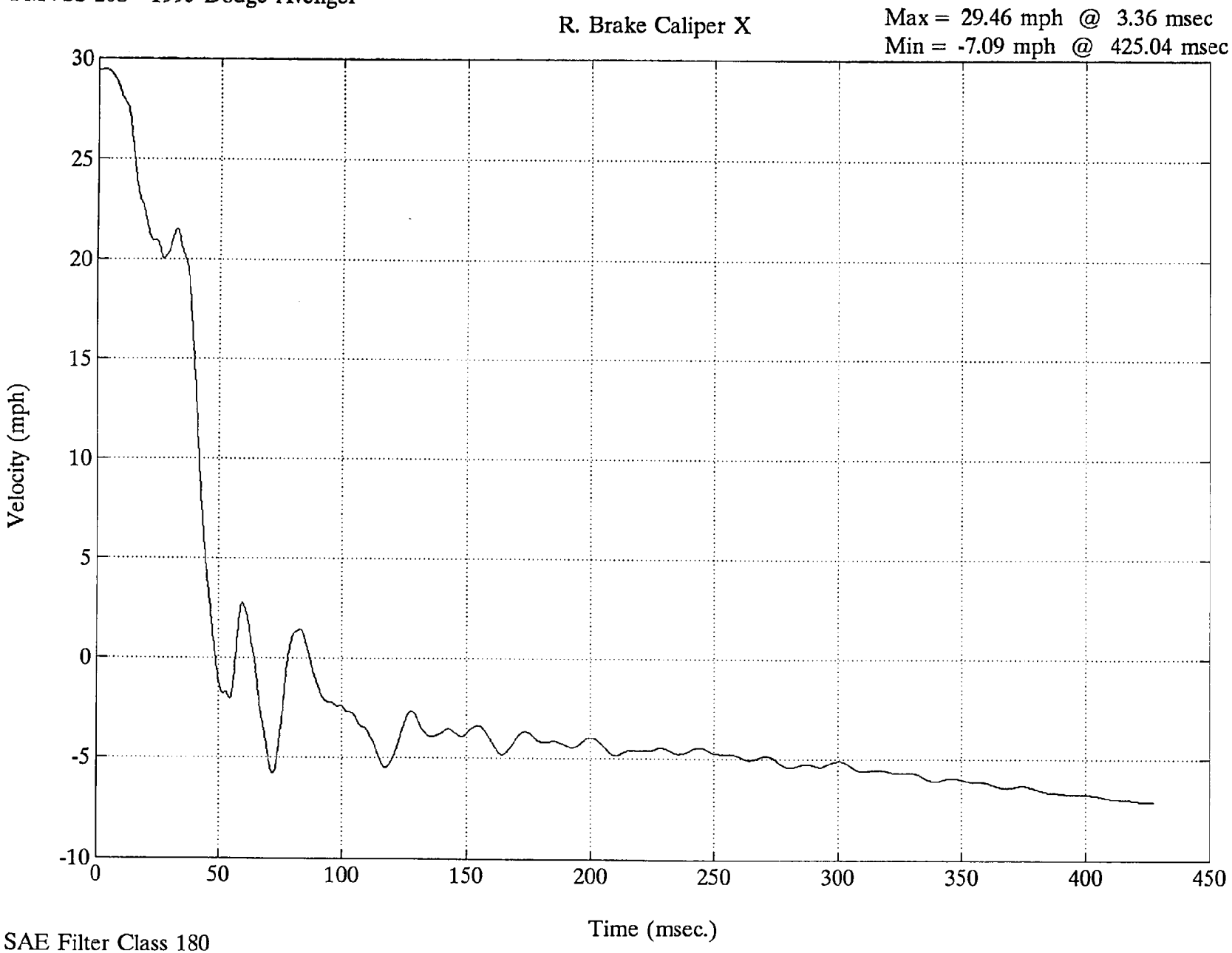
FMVSS 208 - 1995 Dodge Avenger



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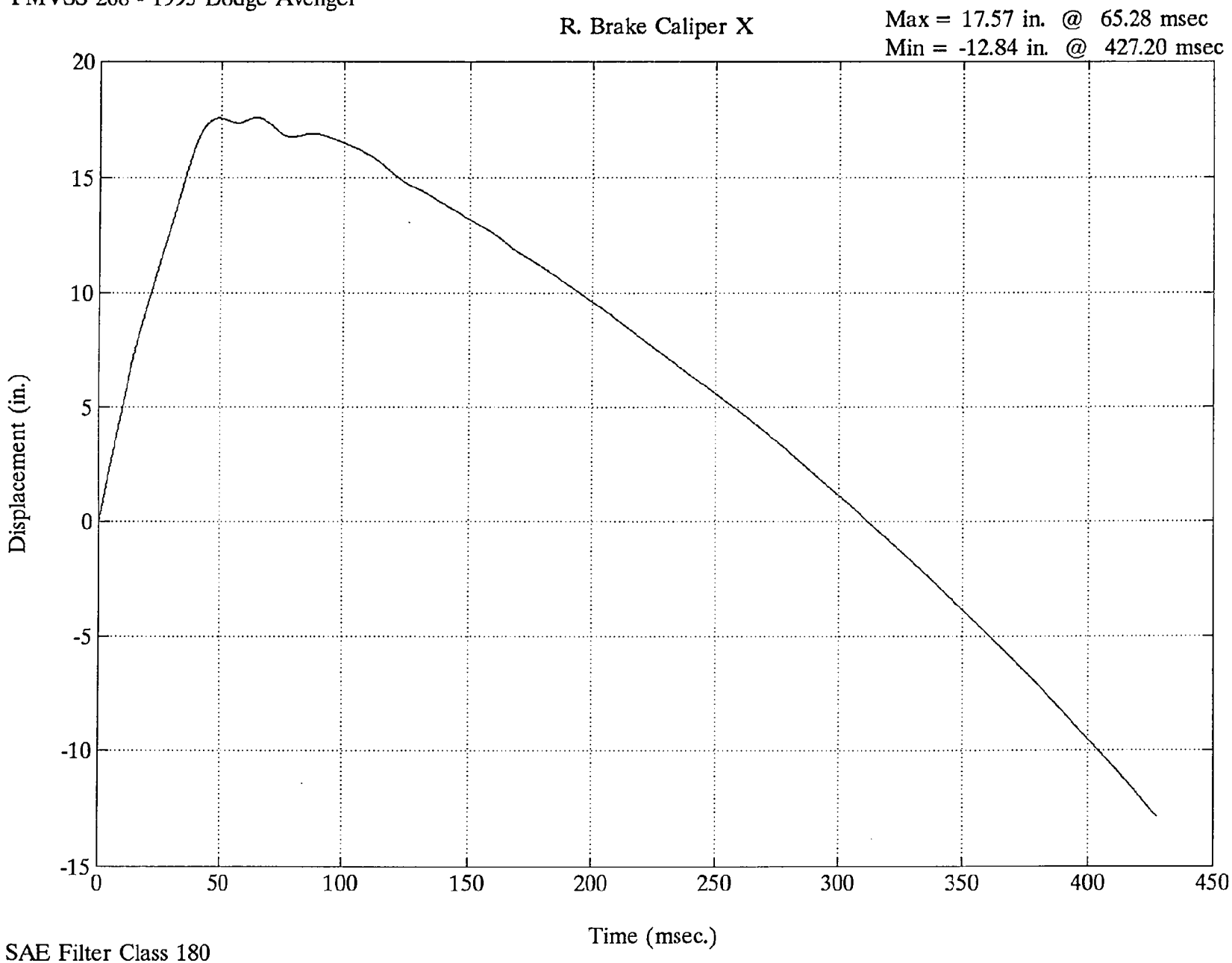
FMVSS 208 - 1995 Dodge Avenger



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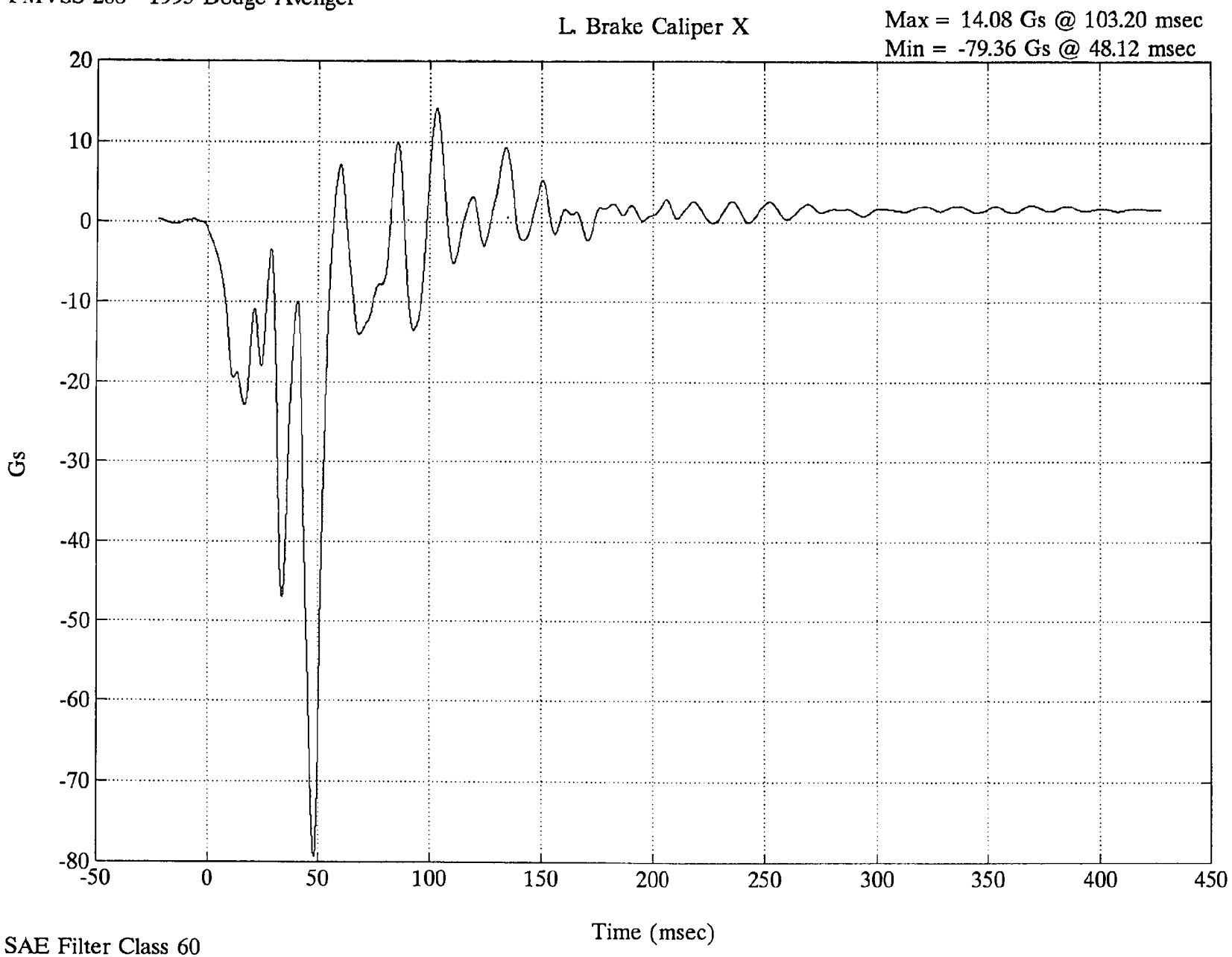
FMVSS 208 - 1995 Dodge Avenger



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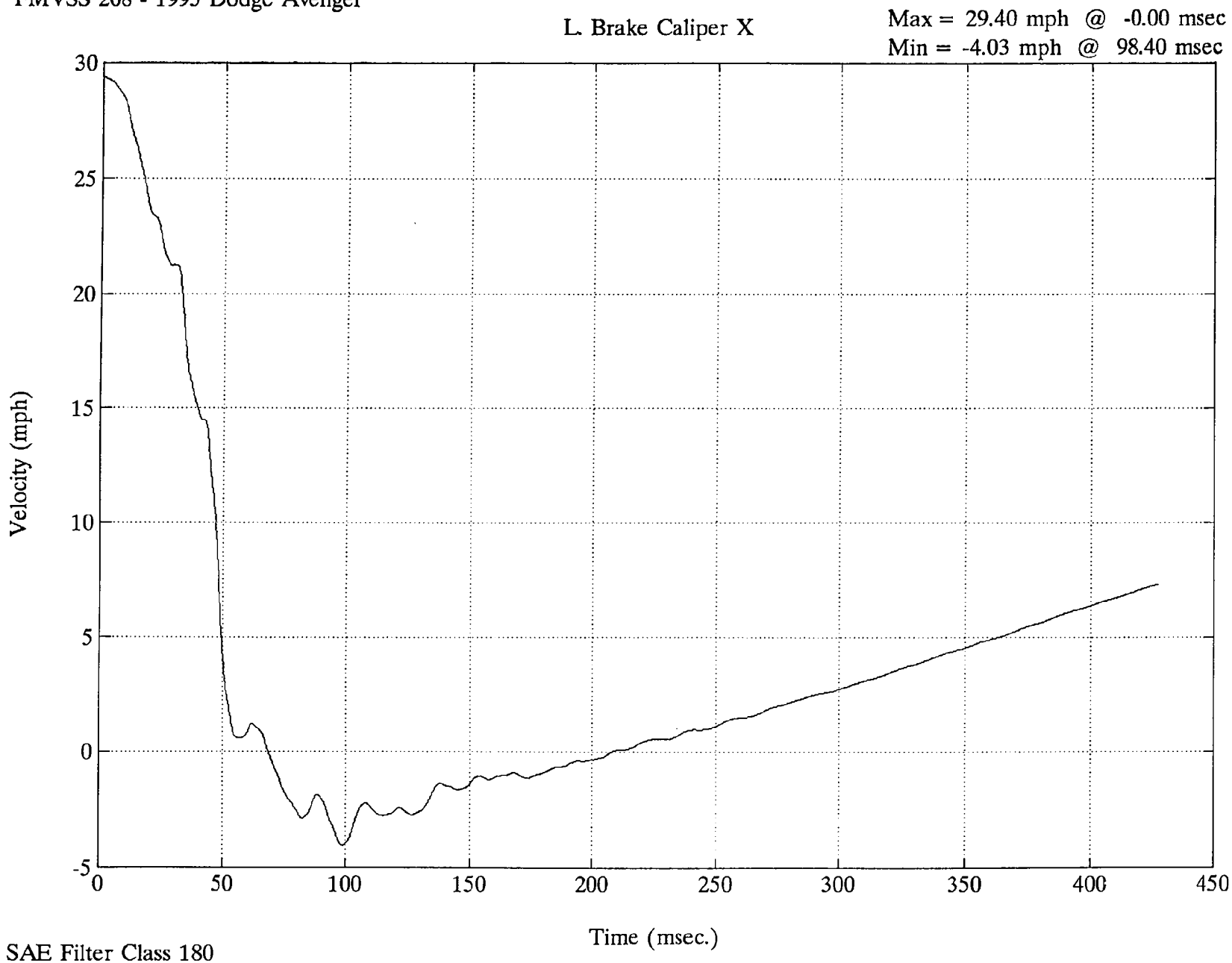

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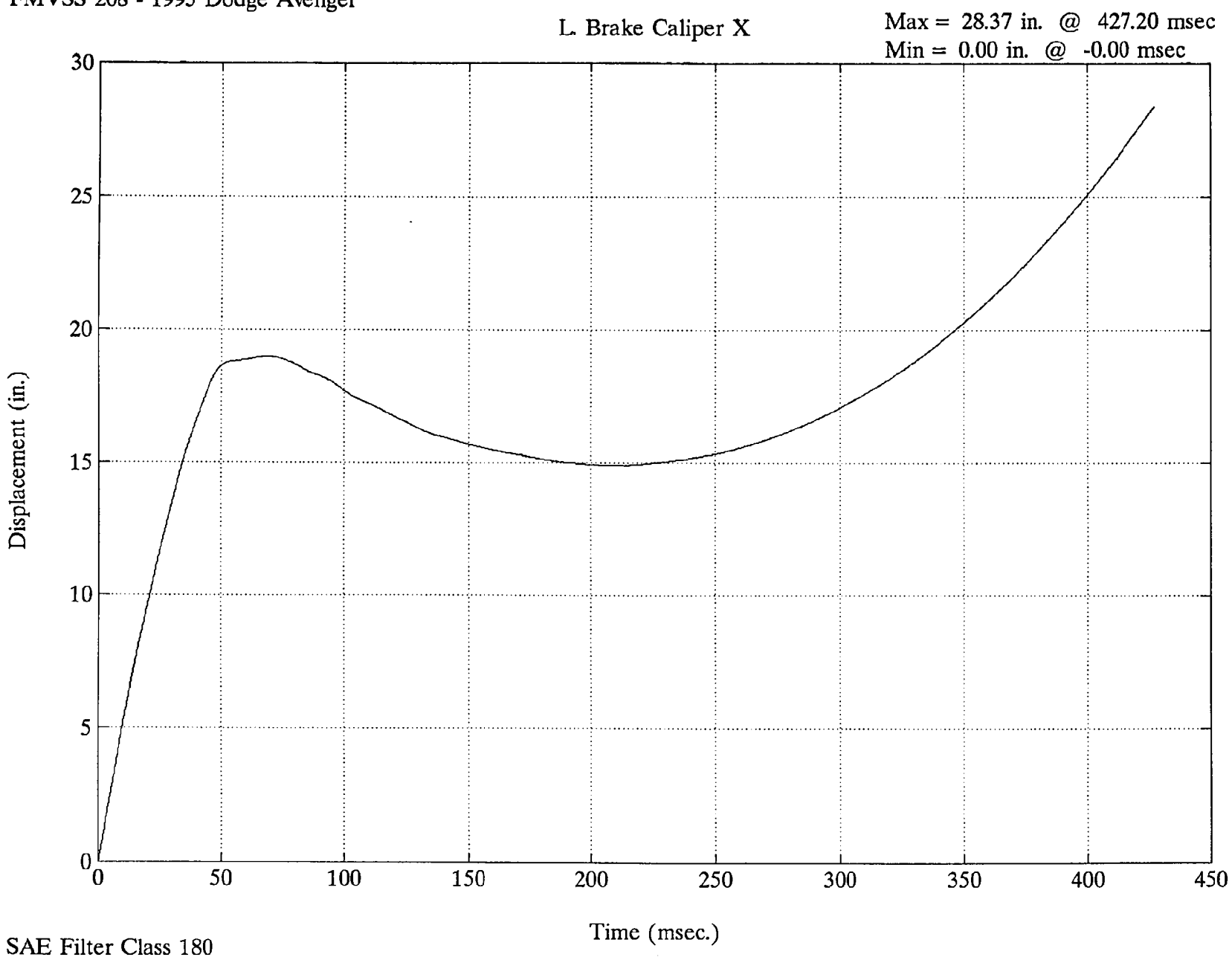

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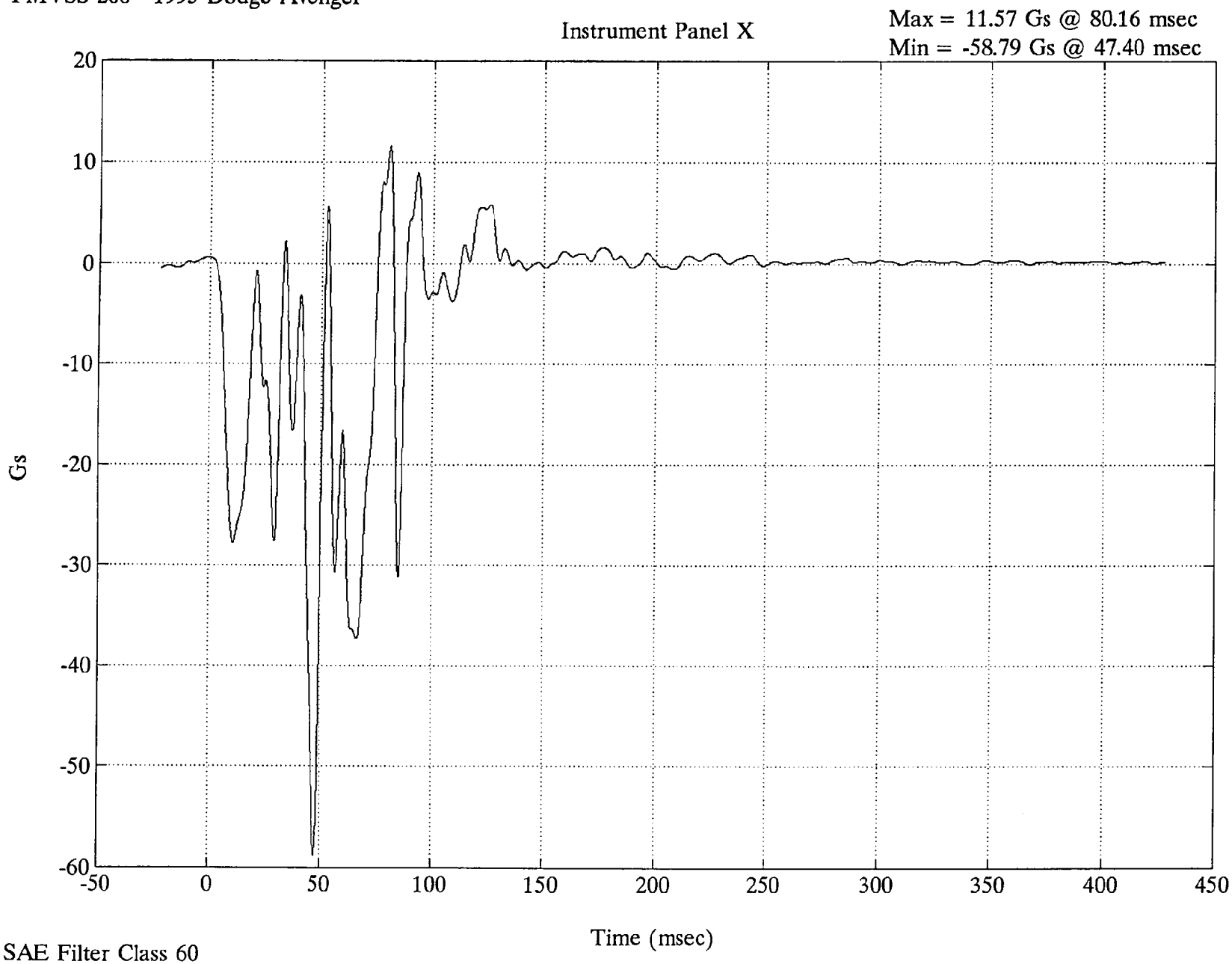

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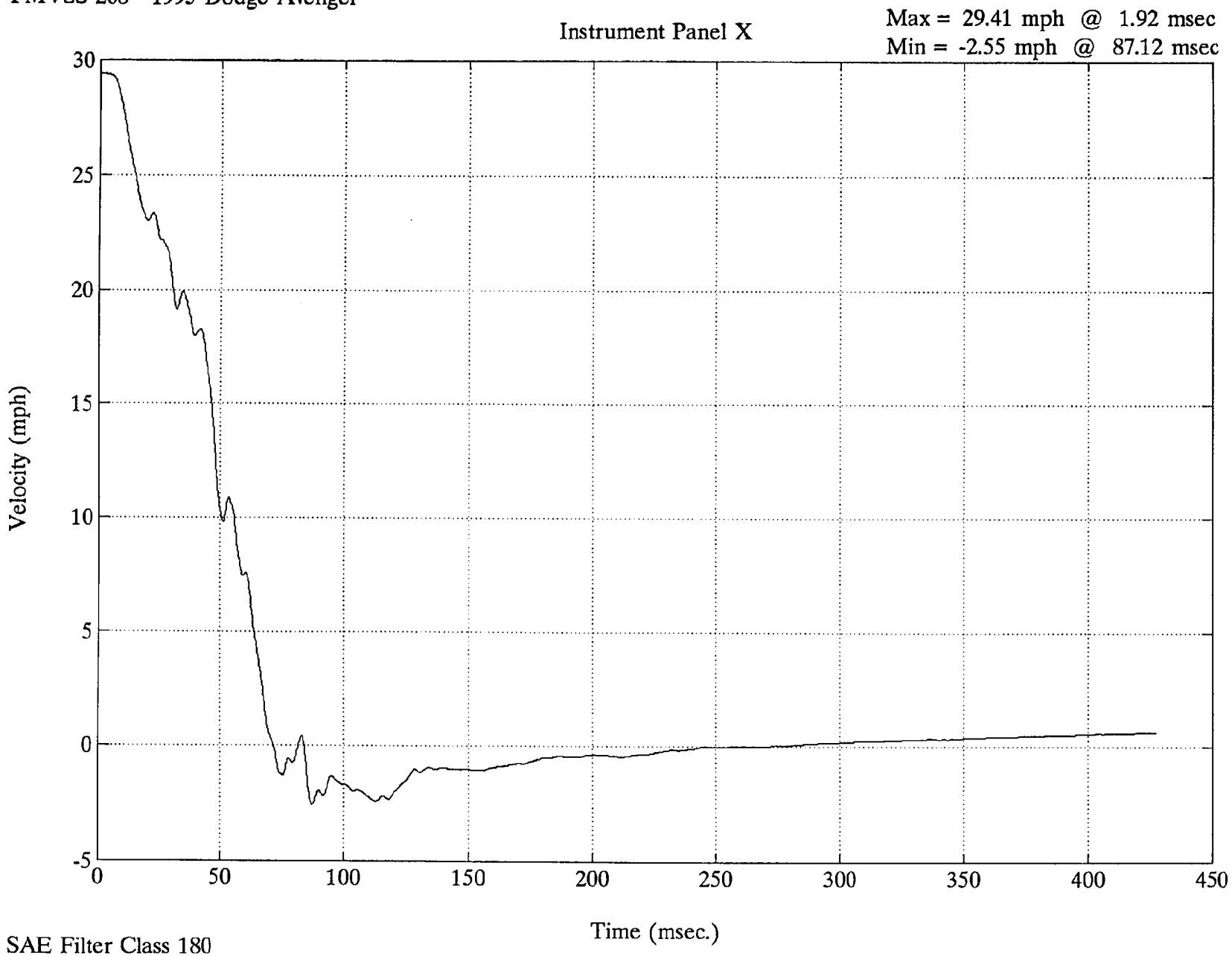

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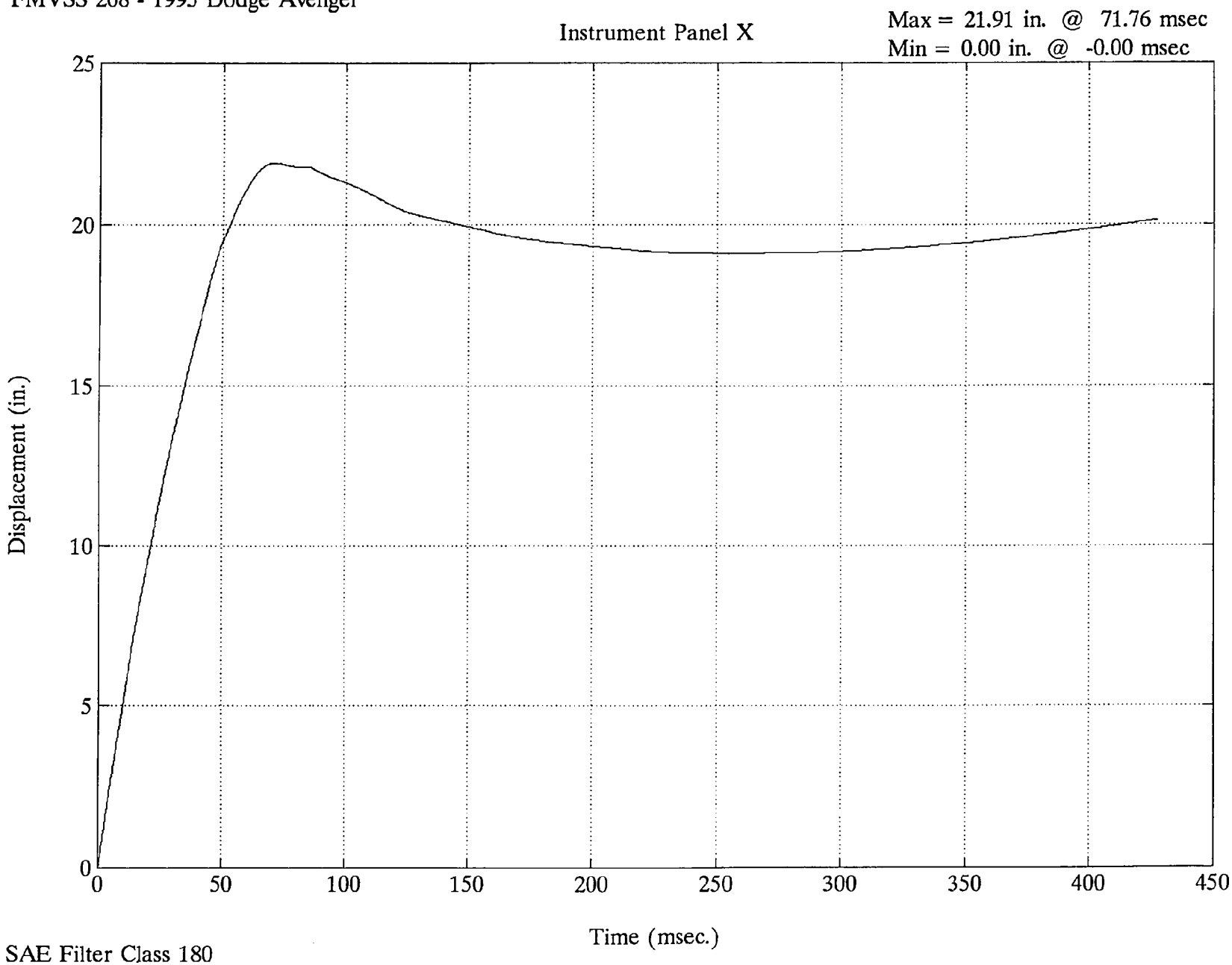

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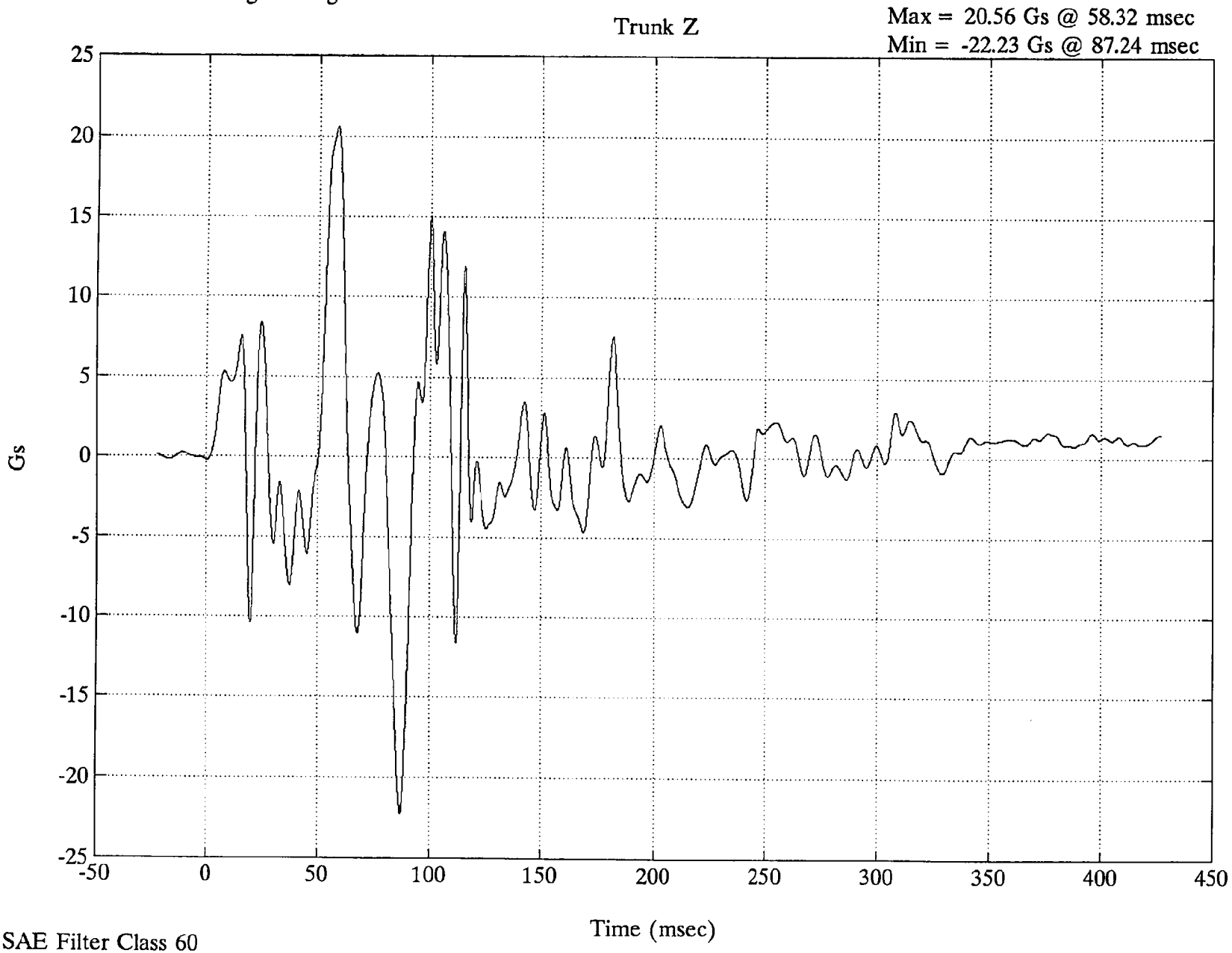

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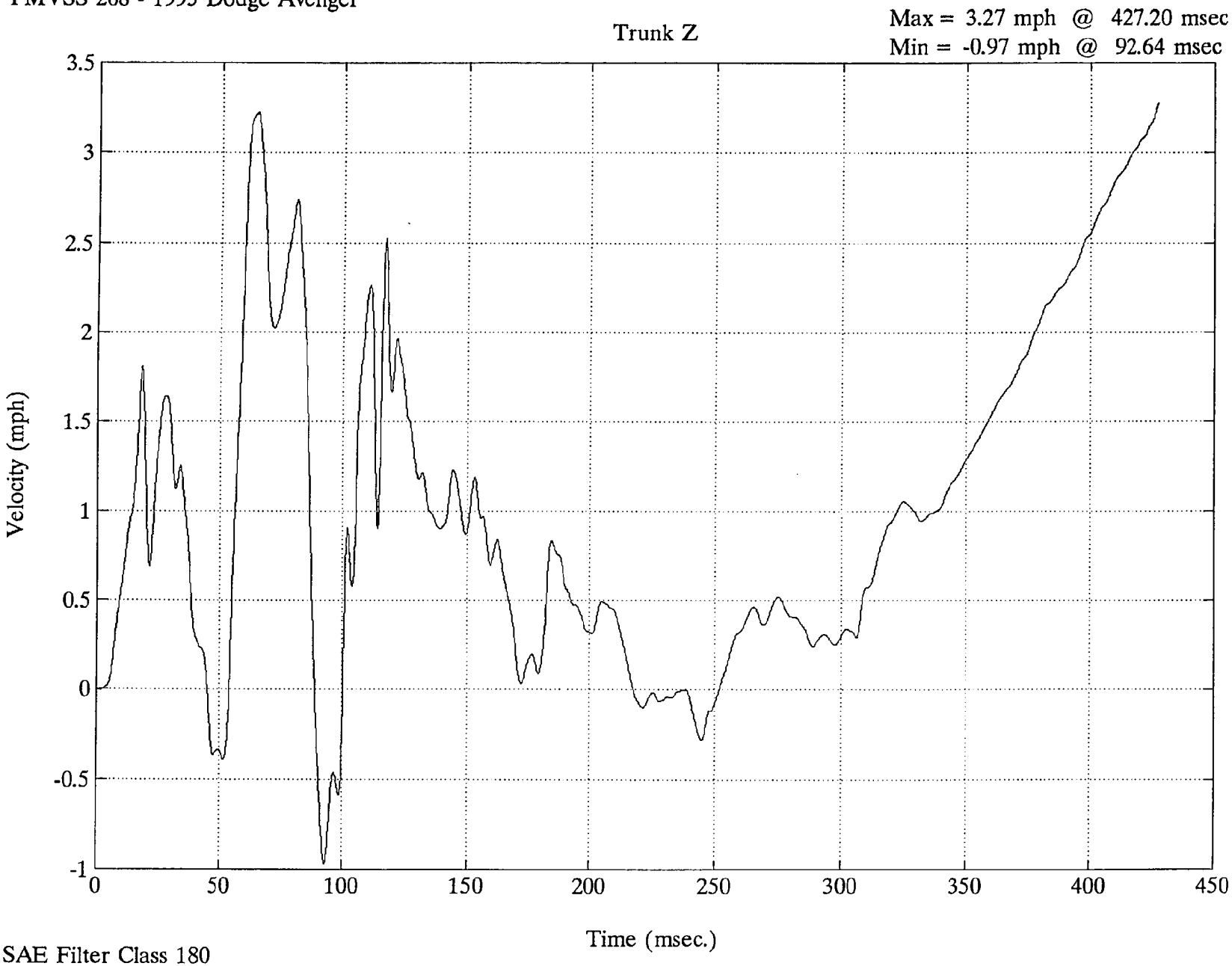

SAE Filter Class 180

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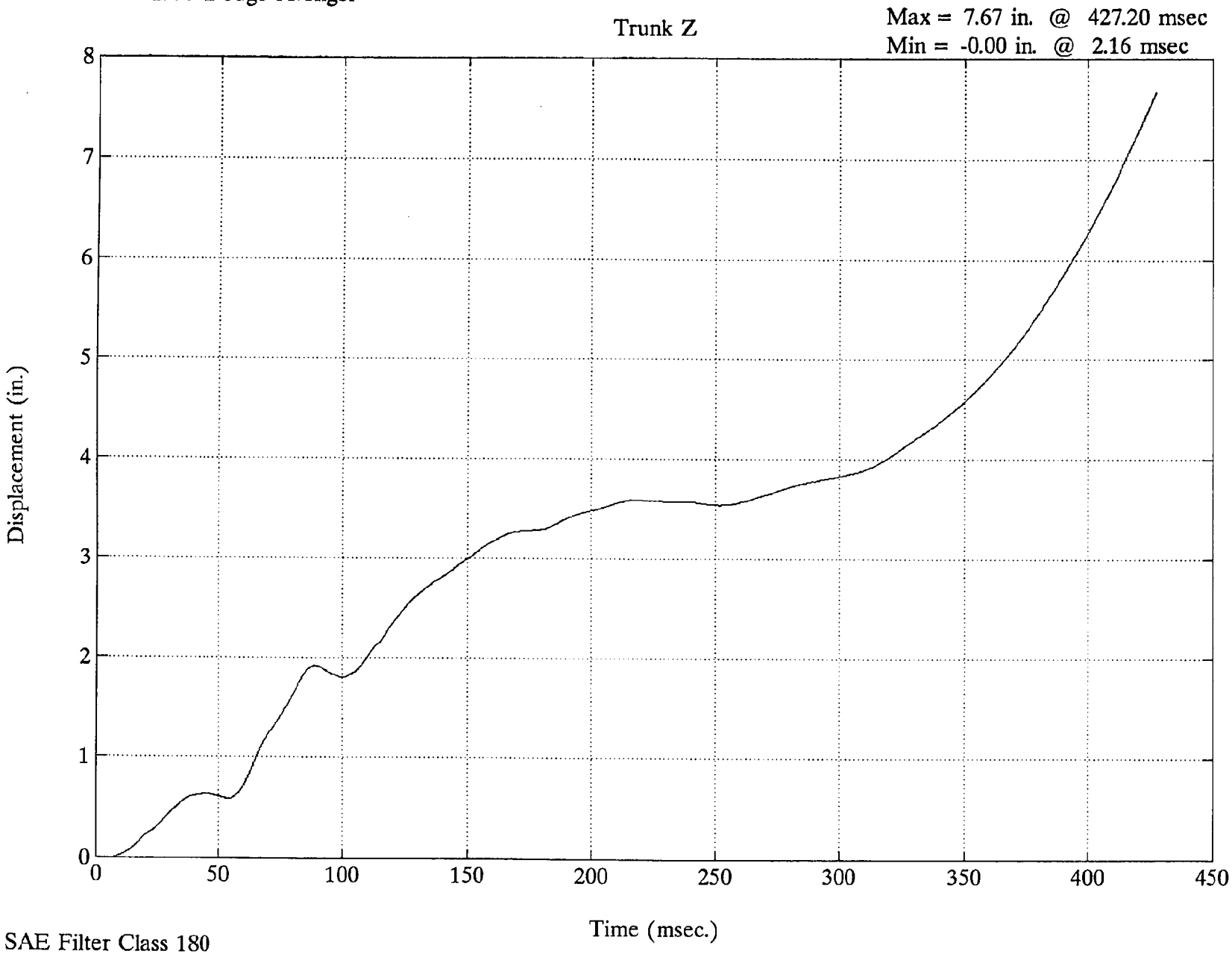

SAE Filter Class 180

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TEST NO. CS0310

DUMMY	SAE FILTER CHANNEL CLASS
Head Accelerations	1000
Chest Accelerations	180
Femur Forces	600

FACILITY: TRACK TEST DATE: 21 Jan 1995
RUN #: 1489 TEST TIME: 10:25:03
SERIES #: 16 BOARD: a

TITLE: 208 TEST #11 - 1995 DODGE AVENGER

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM AMP	MAXIMUM msec	MINIMUM AMP	MINIMUM msec	FILTER CLASS
1	Pos. 1 Head X	Gs	31.1	182.4	-44.4	61.7	1000.0
2	Pos. 1 Head Y	Gs	5.7	45.5	-4.8	78.6	1000.0
3	Pos. 1 Head Z	Gs	17.0	70.3	-5.5	90.8	1000.0
4	Pos. 1 Left Femur	lbs	65.2	144.1	-1262.9	55.2	600.0
5	Pos. 1 Chest X	Gs	3.3	122.3	-46.5	71.9	180.0
6	Pos. 1 Chest Y	Gs	2.6	79.4	-6.6	52.8	180.0
7	Pos. 1 Chest Z	Gs	5.4	86.2	-5.8	50.3	180.0
8	Pos. 1 Right Femur	lbs	75.4	147.8	-1779.5	54.0	600.0
9	Pos. 2 Head X	Gs	14.5	102.1	-49.3	58.4	1000.0
10	Pos. 2 Head Y	Gs	20.7	98.5	-19.8	46.6	1000.0
11	Pos. 2 Head Z	Gs	30.5	144.1	-17.7	101.2	1000.0
12	Pos. 2 Left Femur	lbs	95.4	179.5	-1629.4	58.4	600.0
13	Pos. 2 Chest X	Gs	2.7	176.8	-27.6	56.4	180.0
14	Pos. 2 Chest Y	Gs	4.3	56.5	-12.8	92.5	180.0
15	Pos. 2 Chest Z	Gs	6.3	46.2	-7.2	72.0	180.0
16	Pos. 2 Right Femur	lbs	87.5	179.5	-1334.7	58.4	600.0
17	Pos. 1 Head Resultant	Gs	45.2	61.7	.0	-6.4	1000.0
18	Pos. 1 Chest Resultant	Gs	46.6	71.9	.0	-7.7	180.0
19	Pos. 2 Head Resultant	Gs	54.2	58.6	.0	-4.8	1000.0
20	Pos. 2 Chest Resultant	Gs	28.2	56.6	.0	-10.1	180.0

36 ms Fixed Duration HIC SUMMARY: Pos. 1 Head Resultant

hic: 195.91
t1 = 49.560 msec
t2 = 84.240 msec
Average G's Over Hic Duration = 31.68

CLIP SUMMARY: Pos. 1 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 45.007 G's
Tstart = 70.4400 ms
Tend = 73.5600 ms
CSI = 359.527

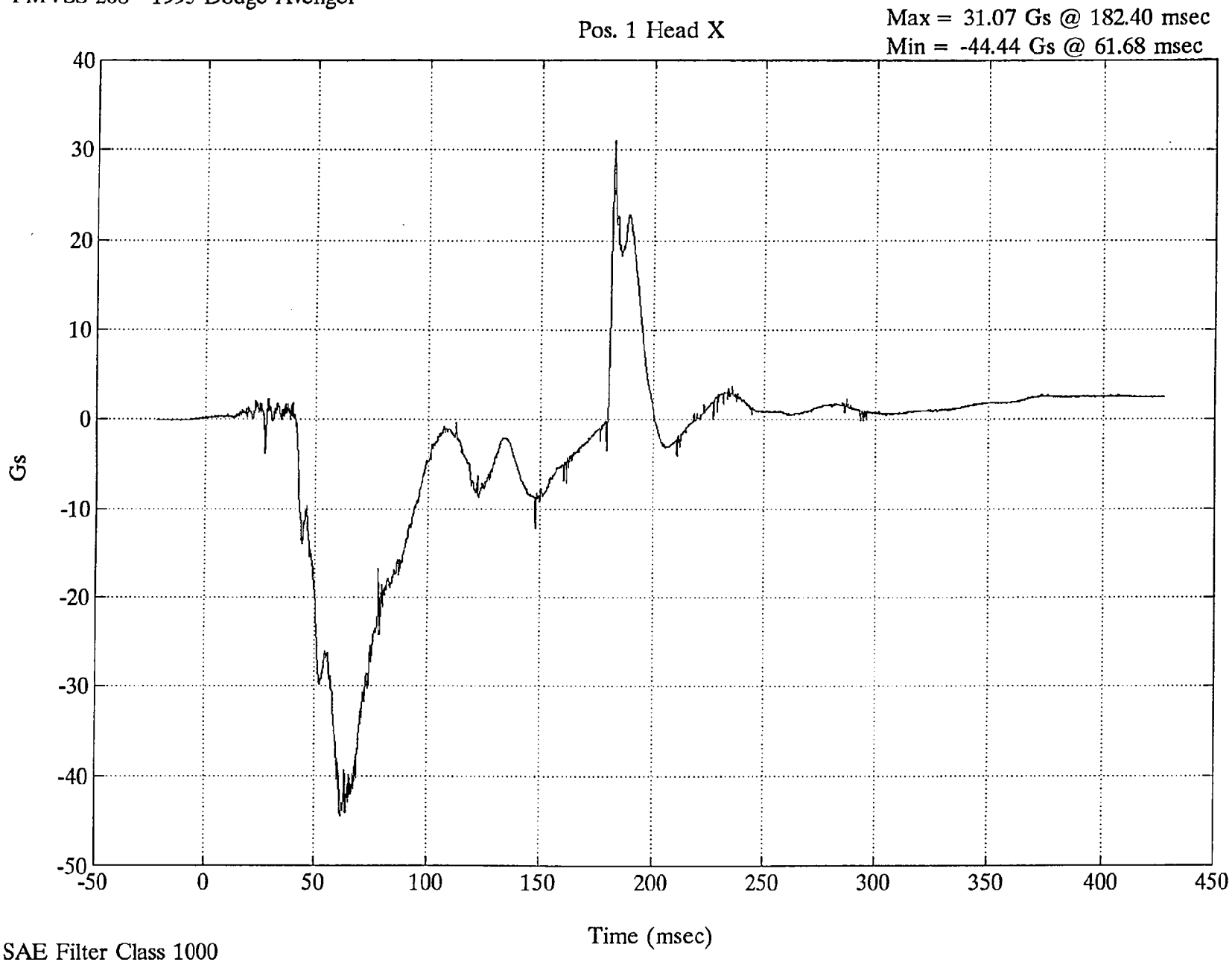
36 ms Fixed Duration HIC SUMMARY: Pos. 2 Head Resultant

hic: 165.83
t1 = 52.080 msec
t2 = 87.960 msec
Average G's Over Hic Duration = 29.24

CLIP SUMMARY: Pos. 2 Chest Resultant

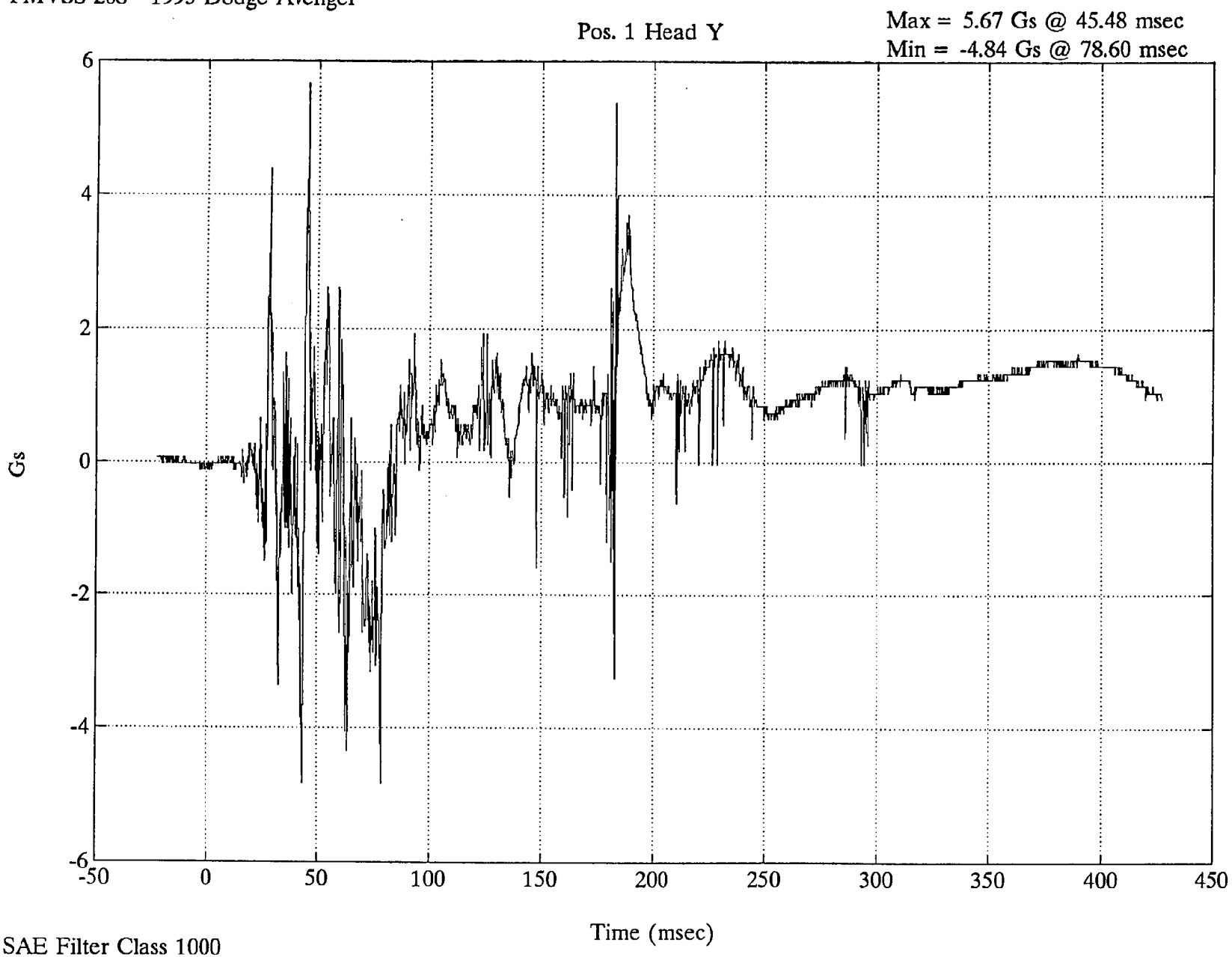
Peak Resultant (3 ms CLIPPED DURATION) = 26.917 G's
Tstart = 90.1200 ms
Tend = 93.2400 ms
CSI = 170.241

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 1000

FMVSS 208 - 1995 Dodge Avenger



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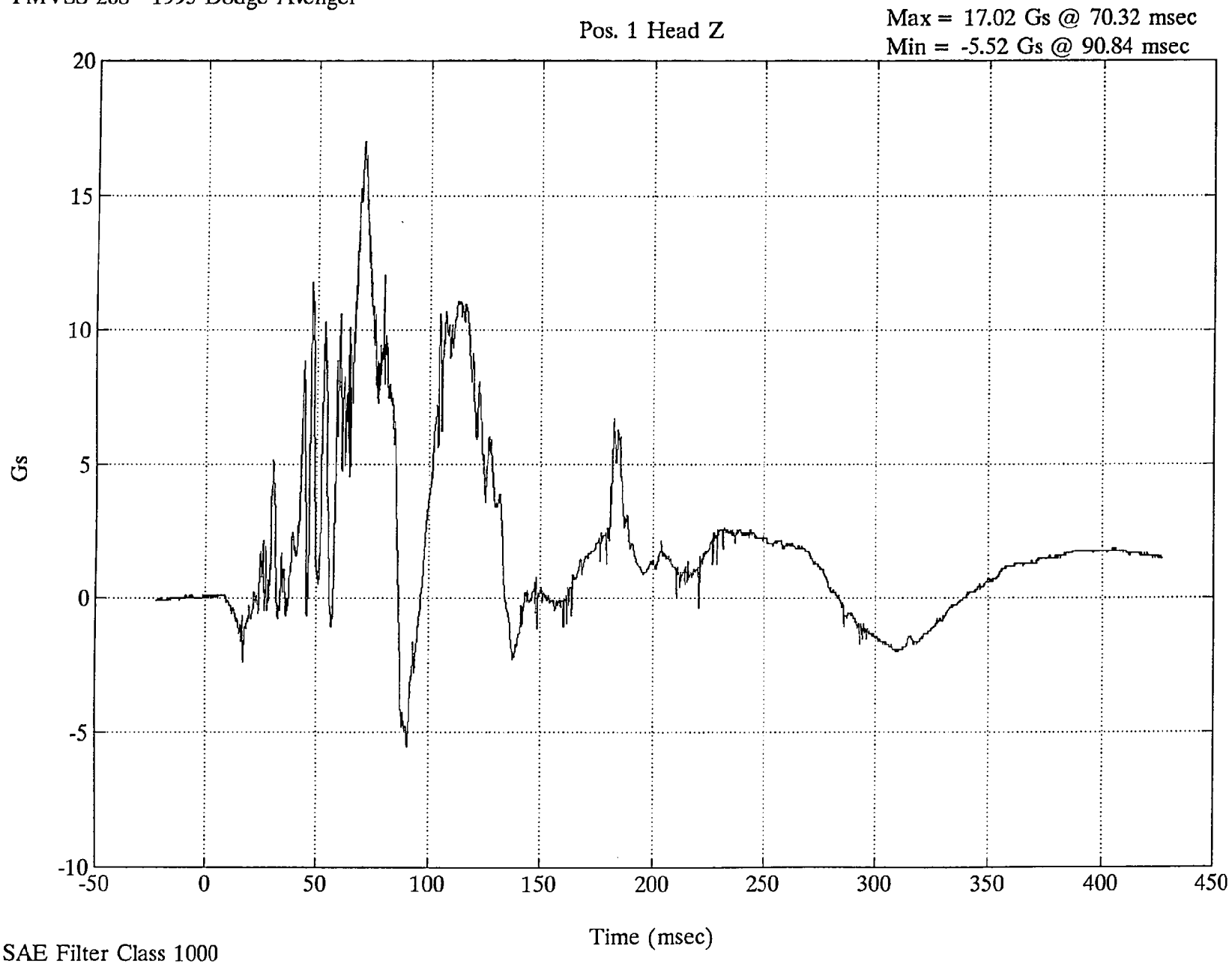
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 1000

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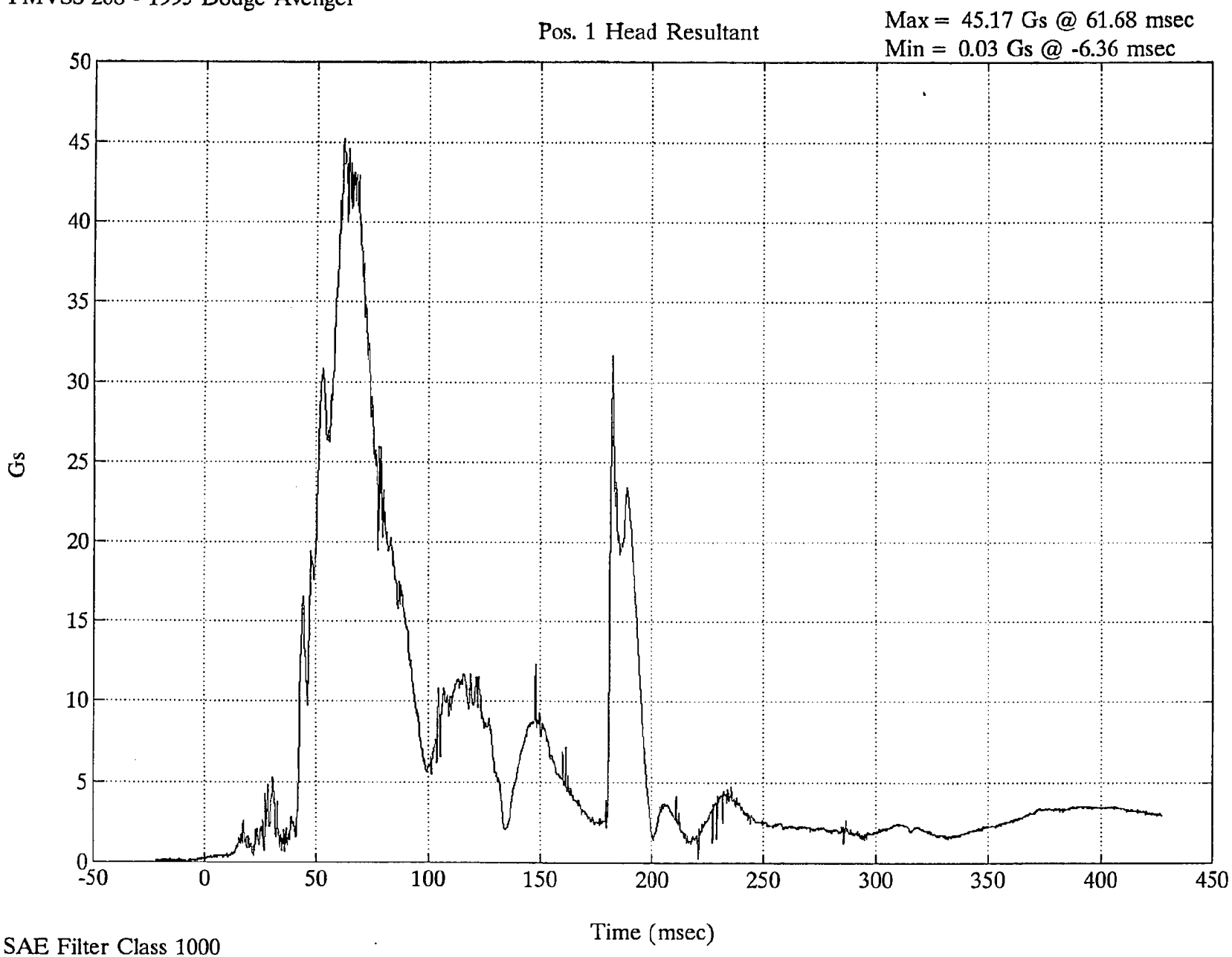
FMVSS 208 - 1995 Dodge Avenger



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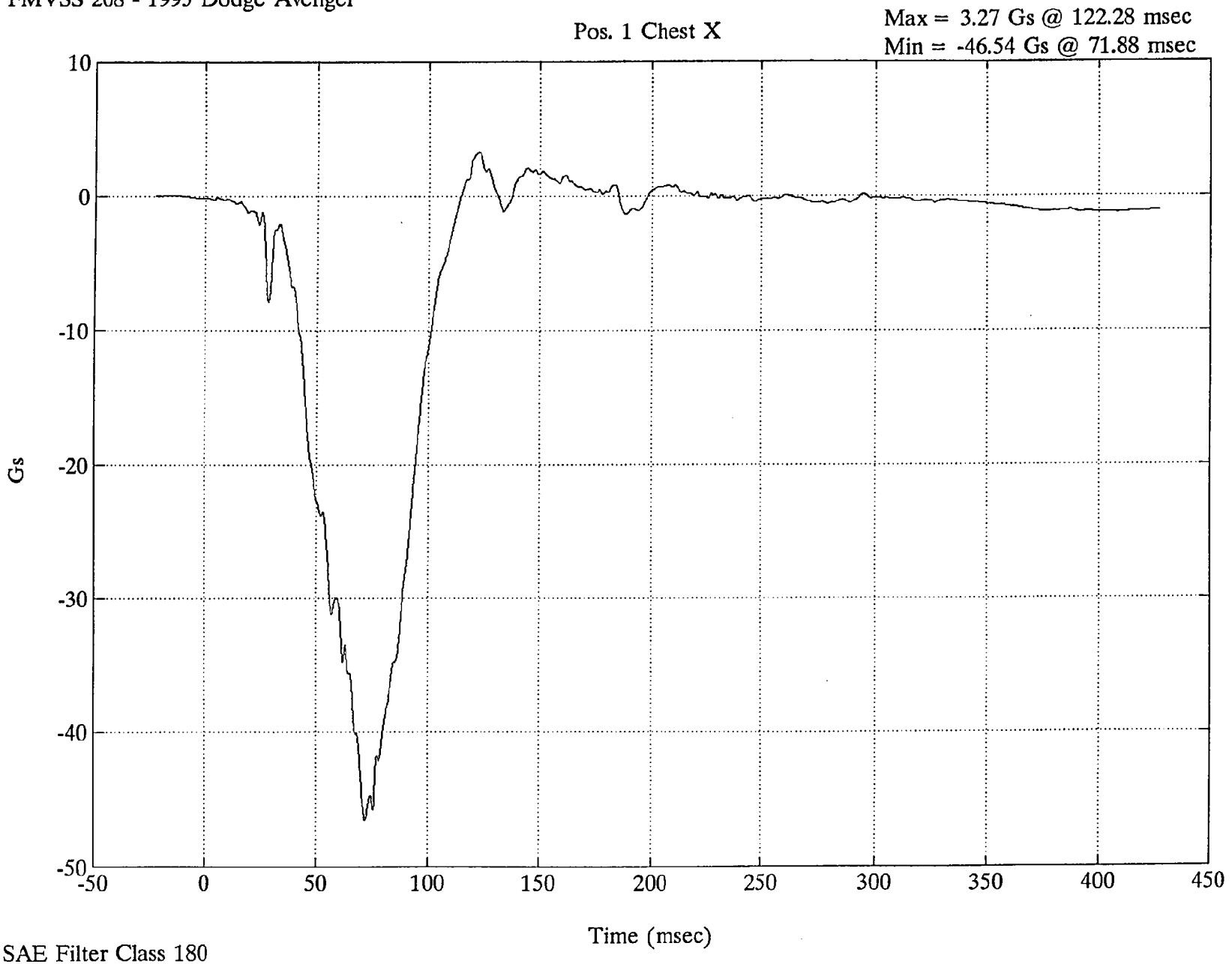
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

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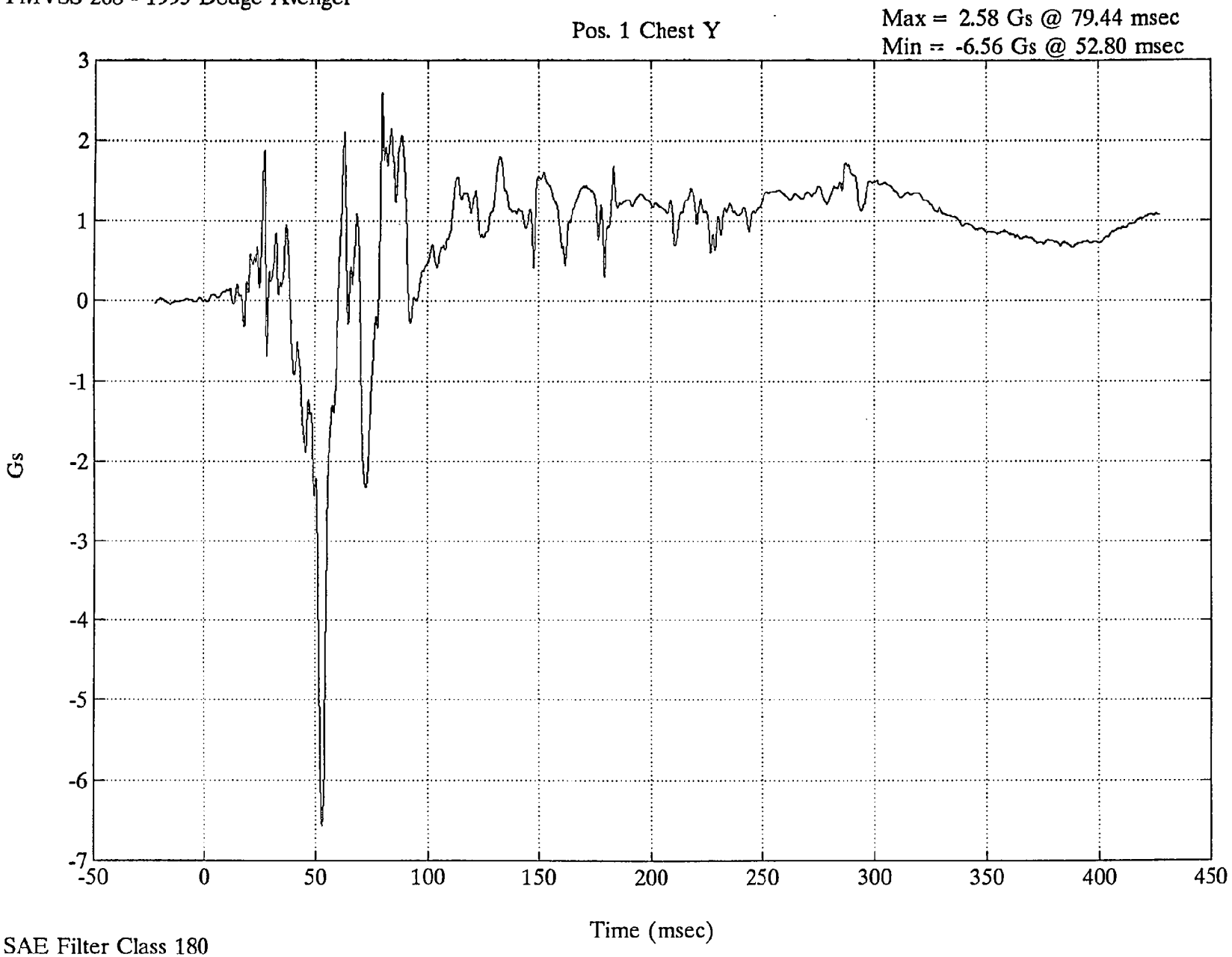

SAE Filter Class 180

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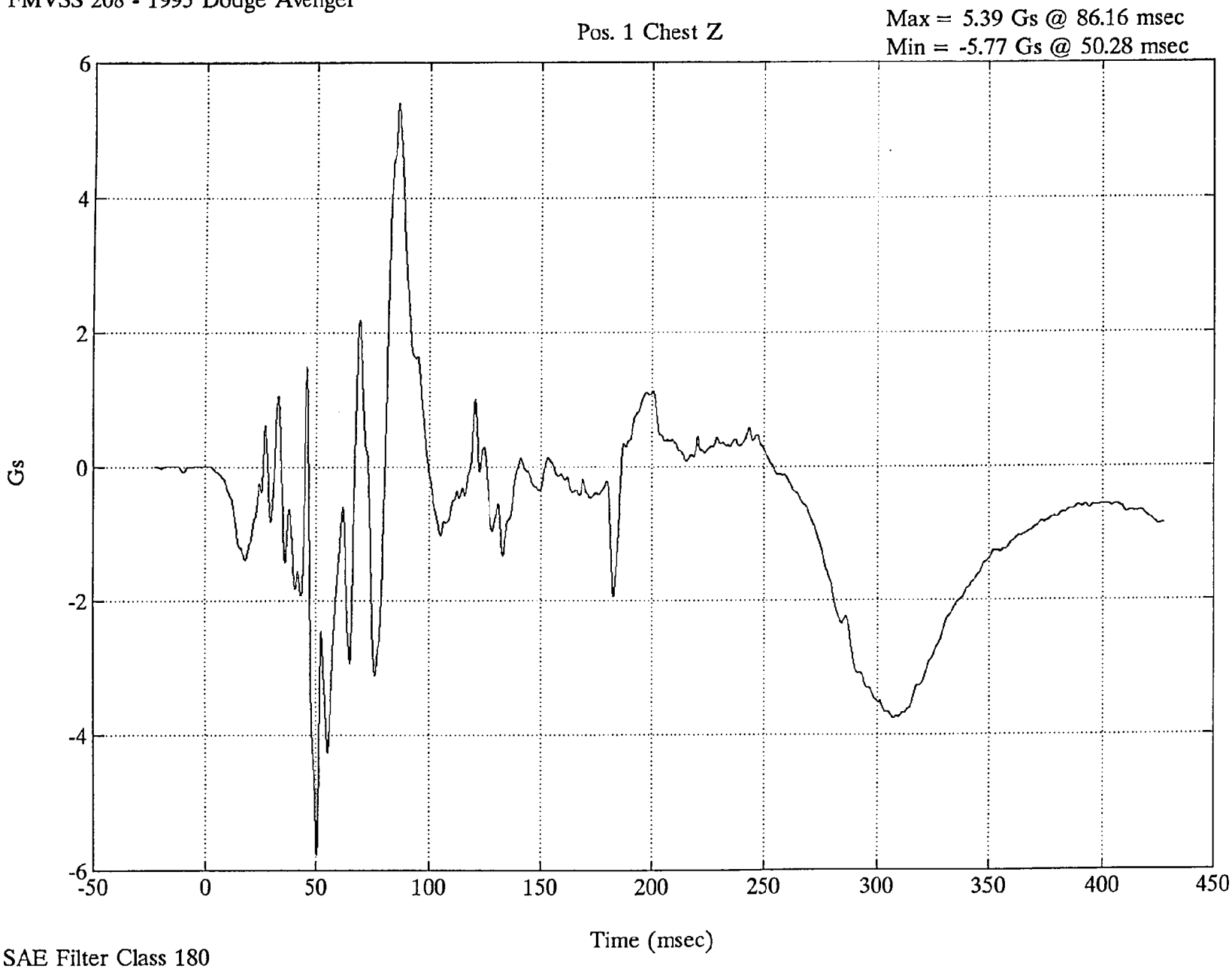
FMVSS 208 - 1995 Dodge Avenger



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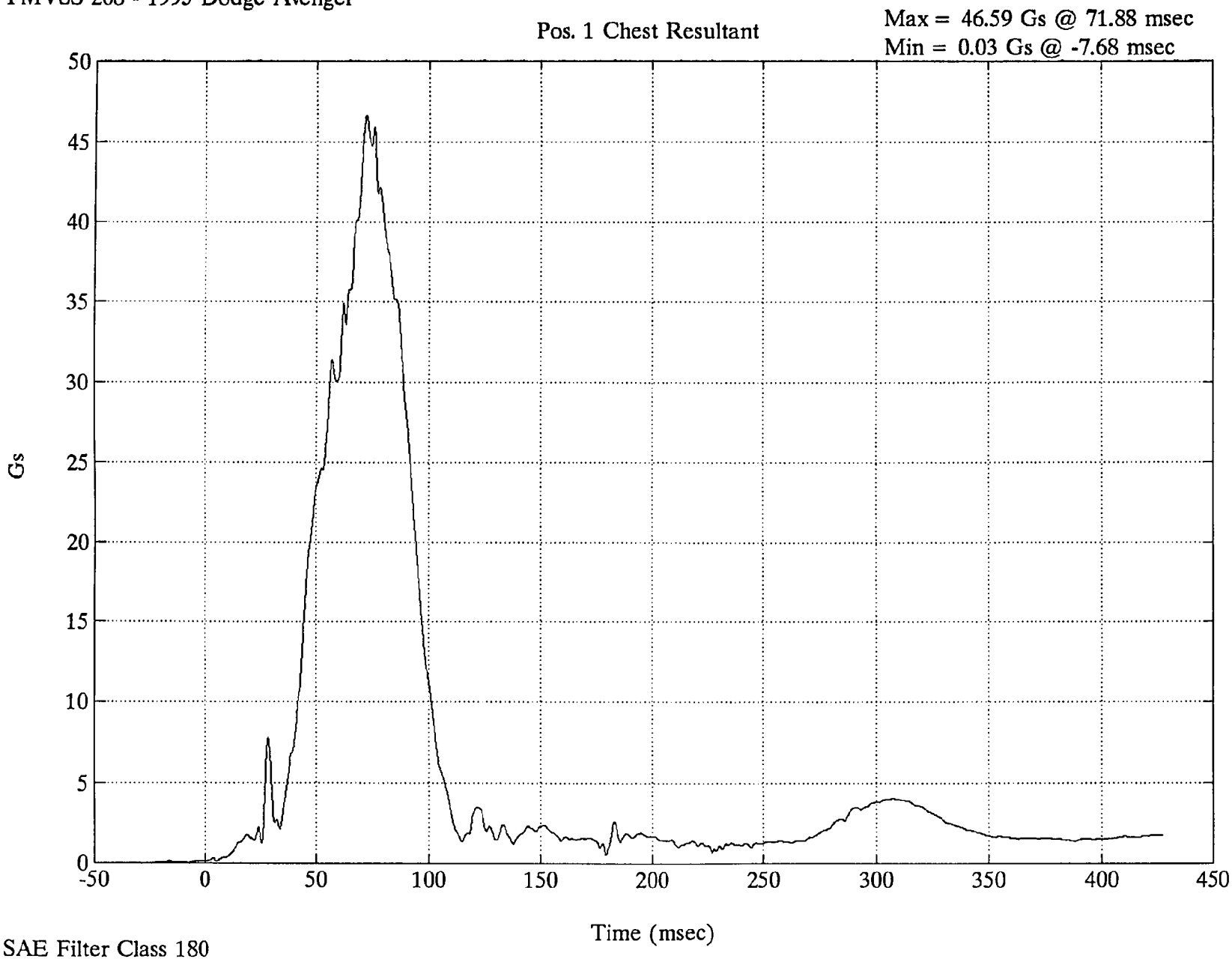
FMVSS 208 - 1995 Dodge Avenger



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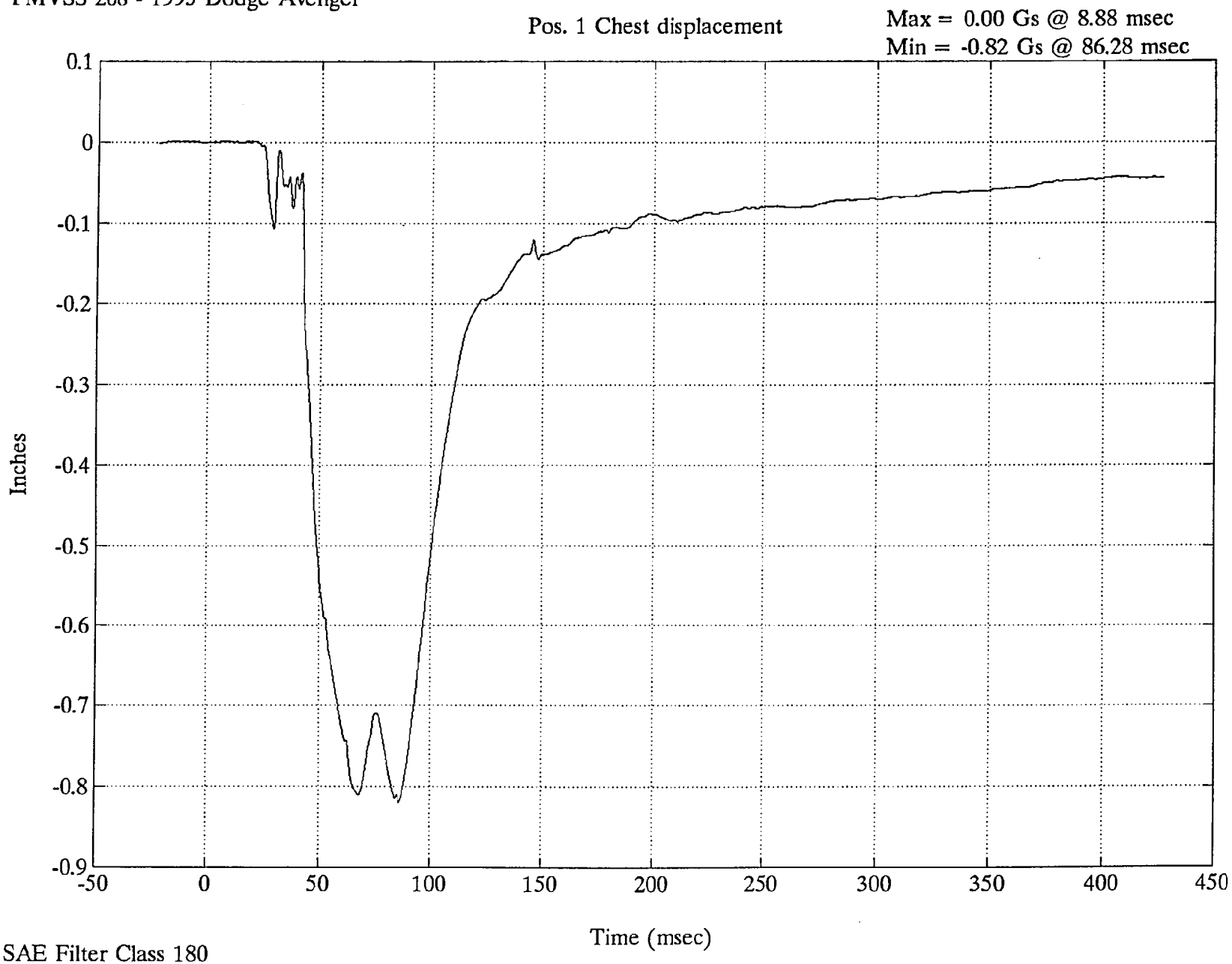
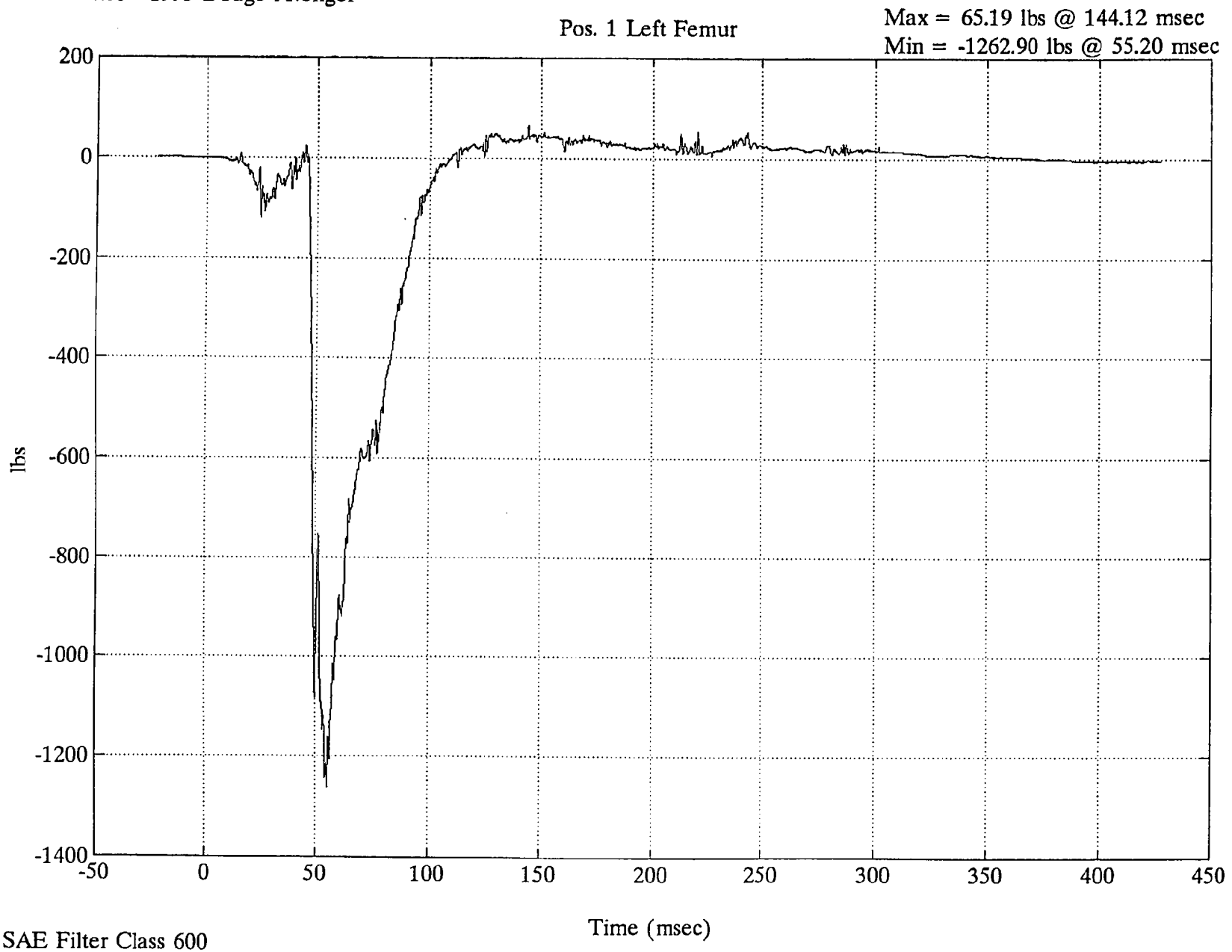
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

8221-11

FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 600

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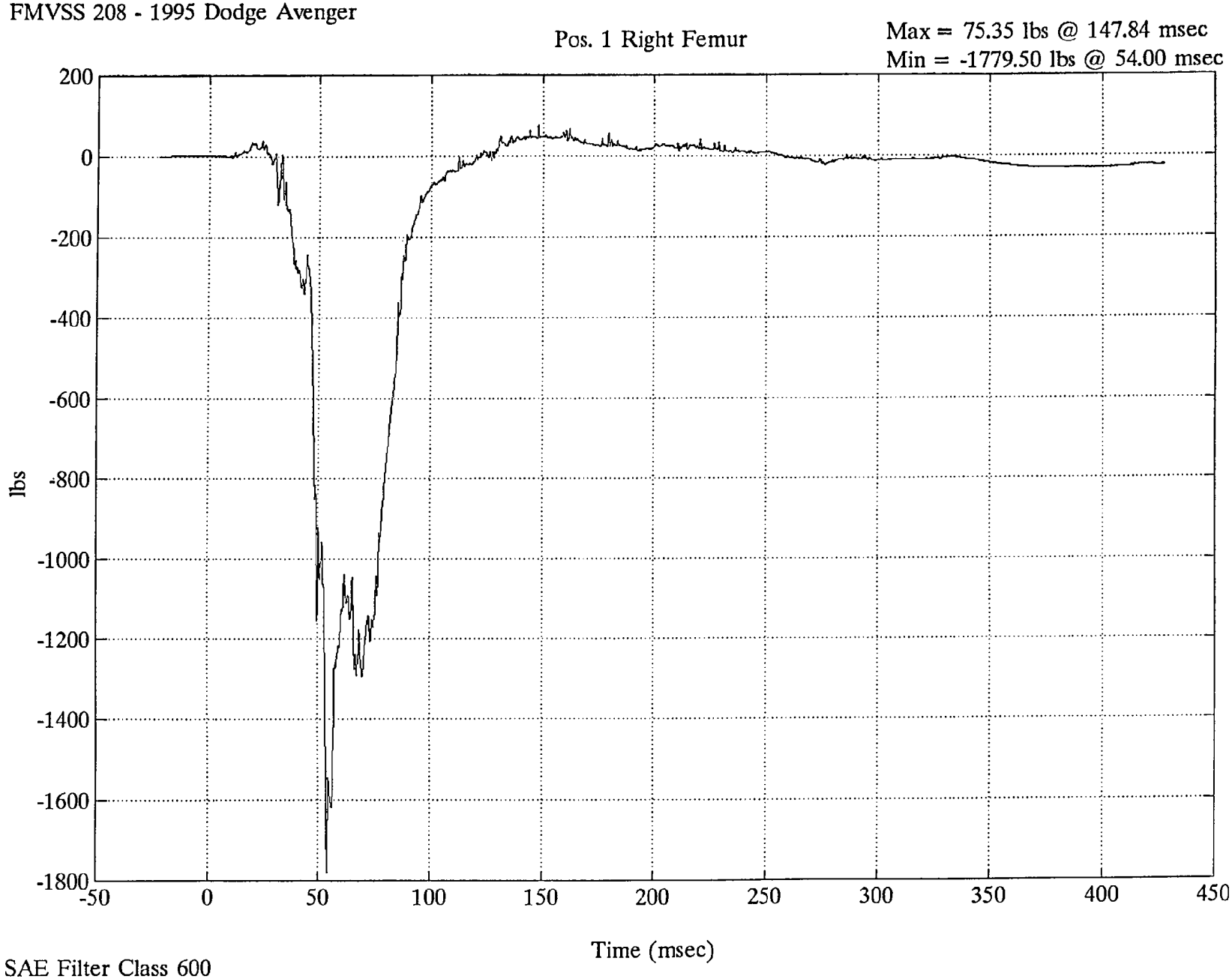
FMVSS 208 - 1995 Dodge Avenger



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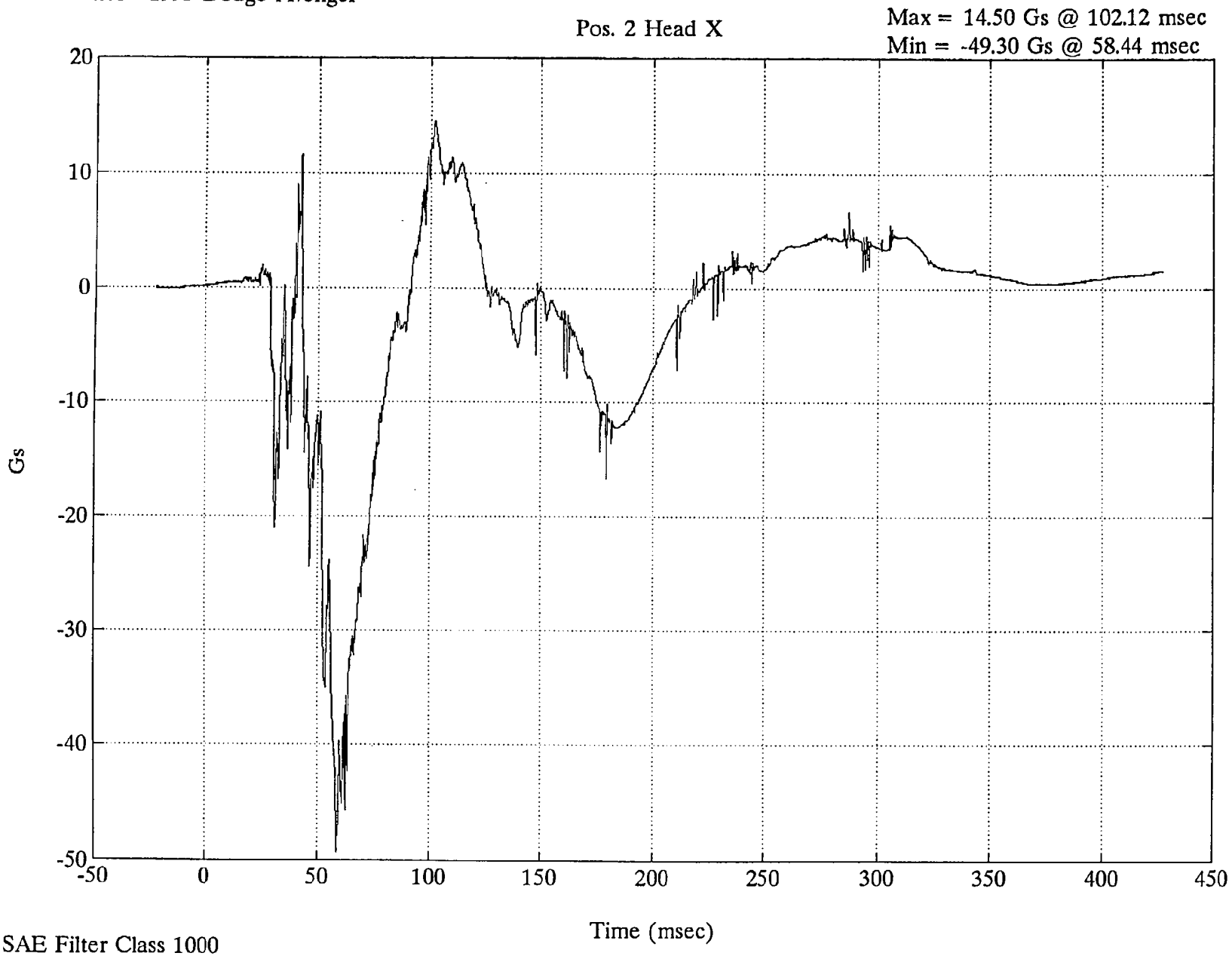
FMVSS 208 - 1995 Dodge Avenger



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8221-11

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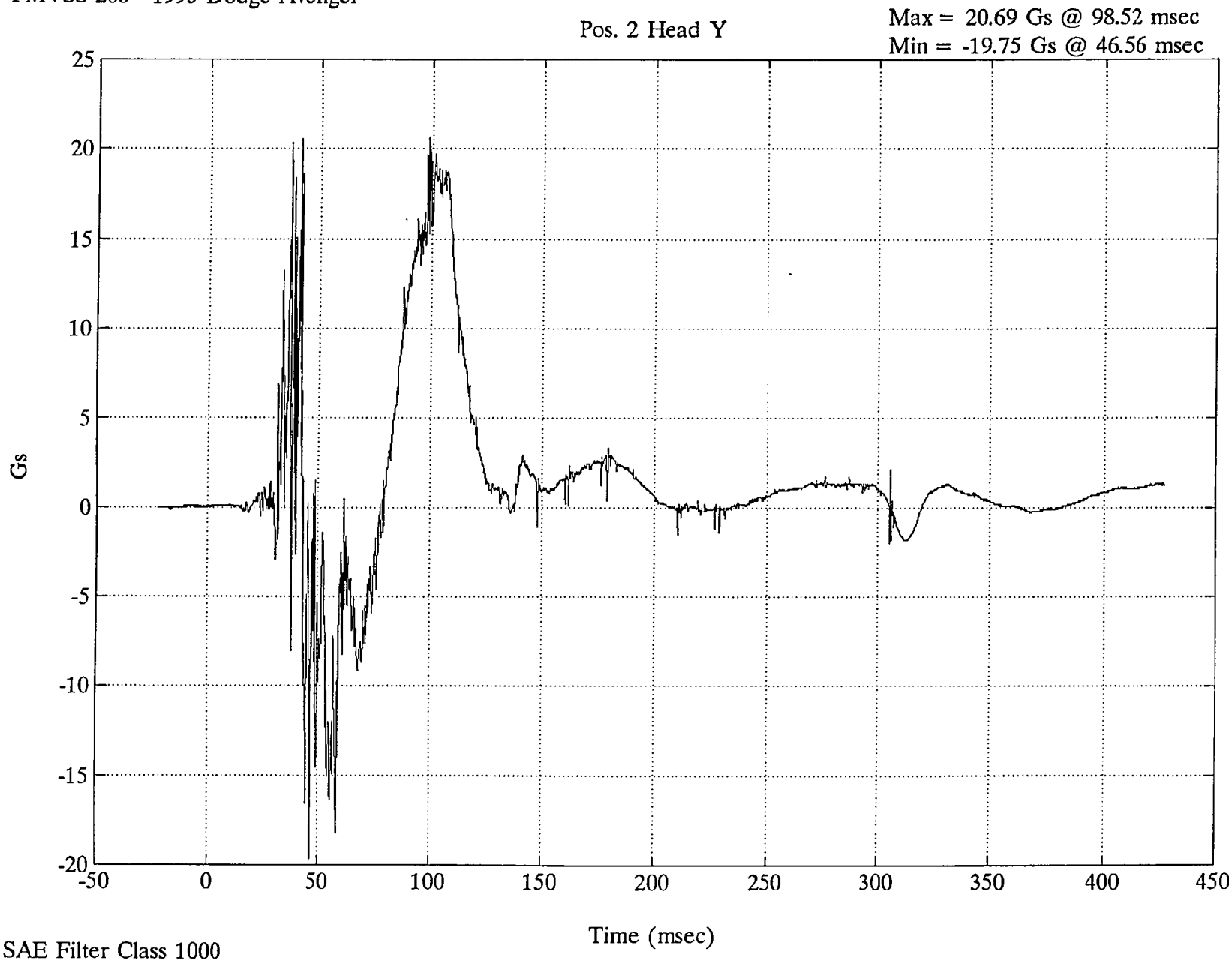

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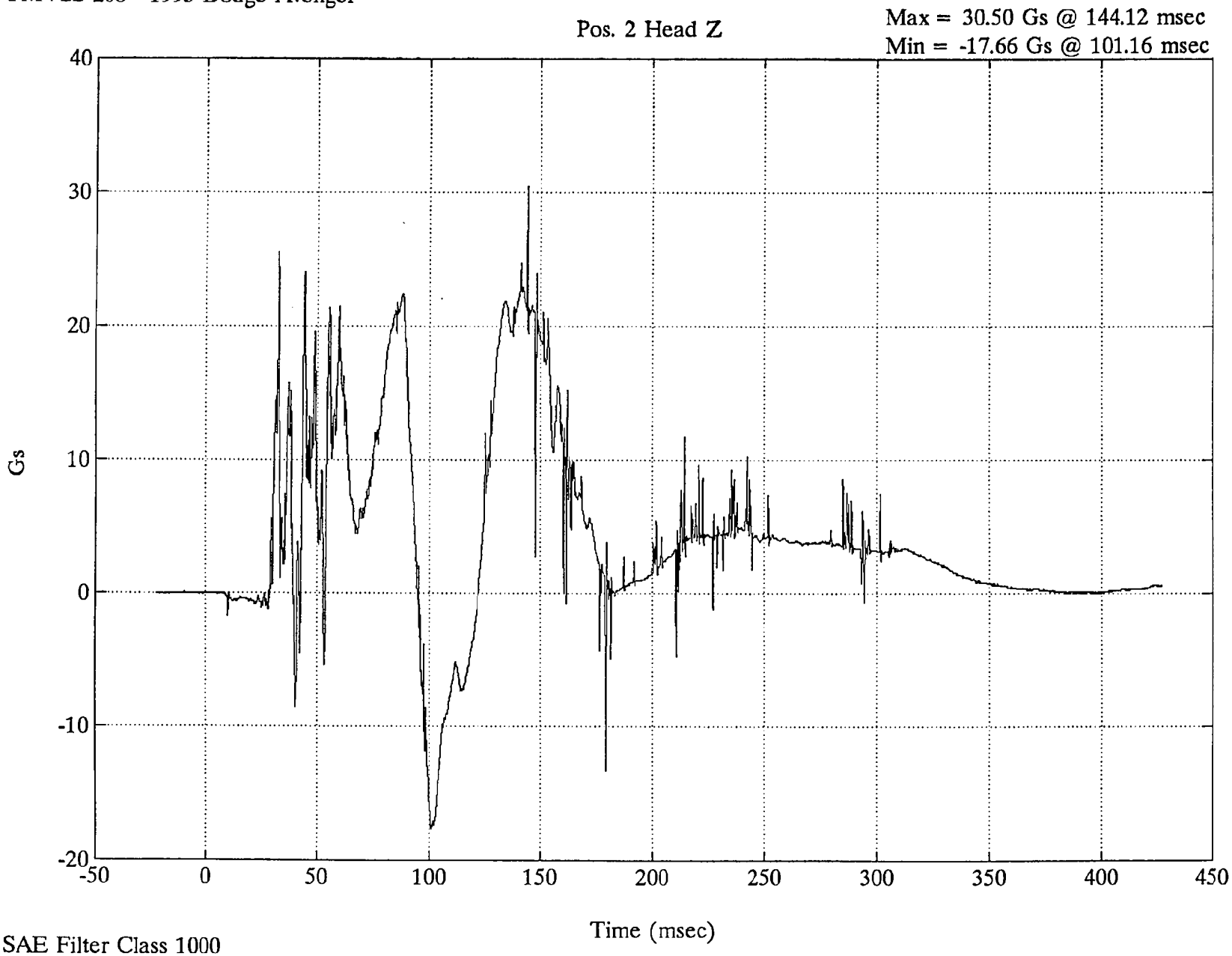

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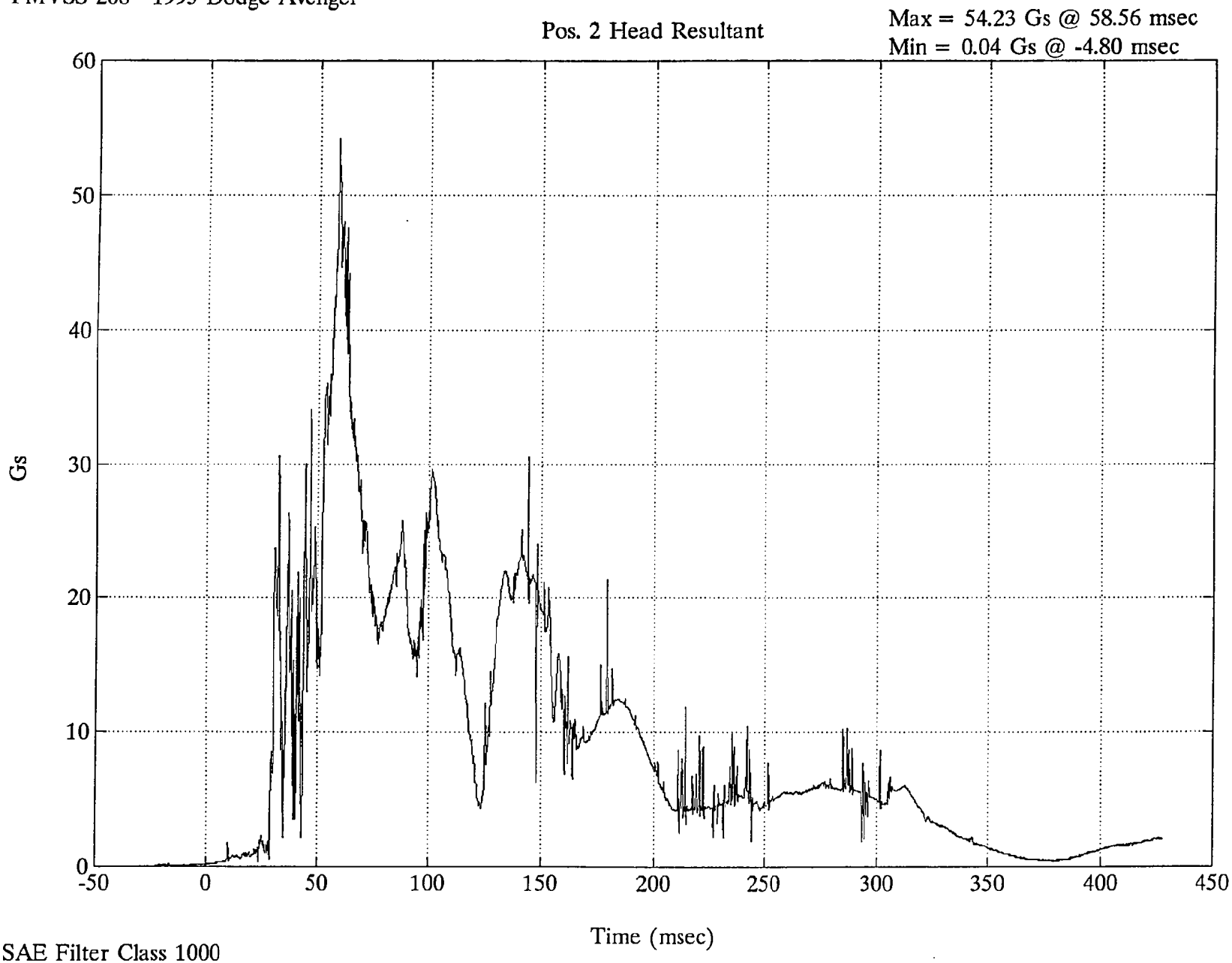
FMVSS 208 - 1995 Dodge Avenger



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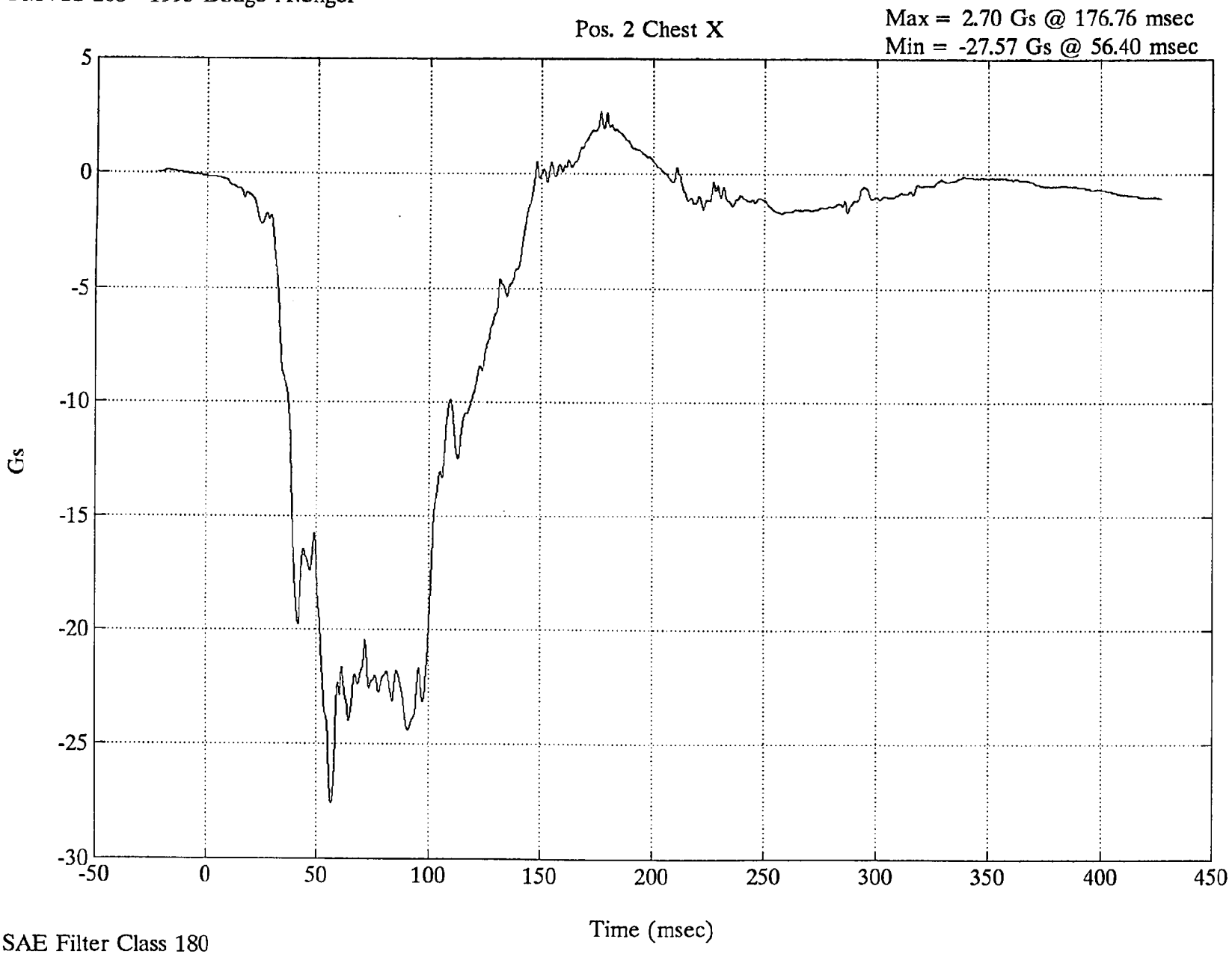
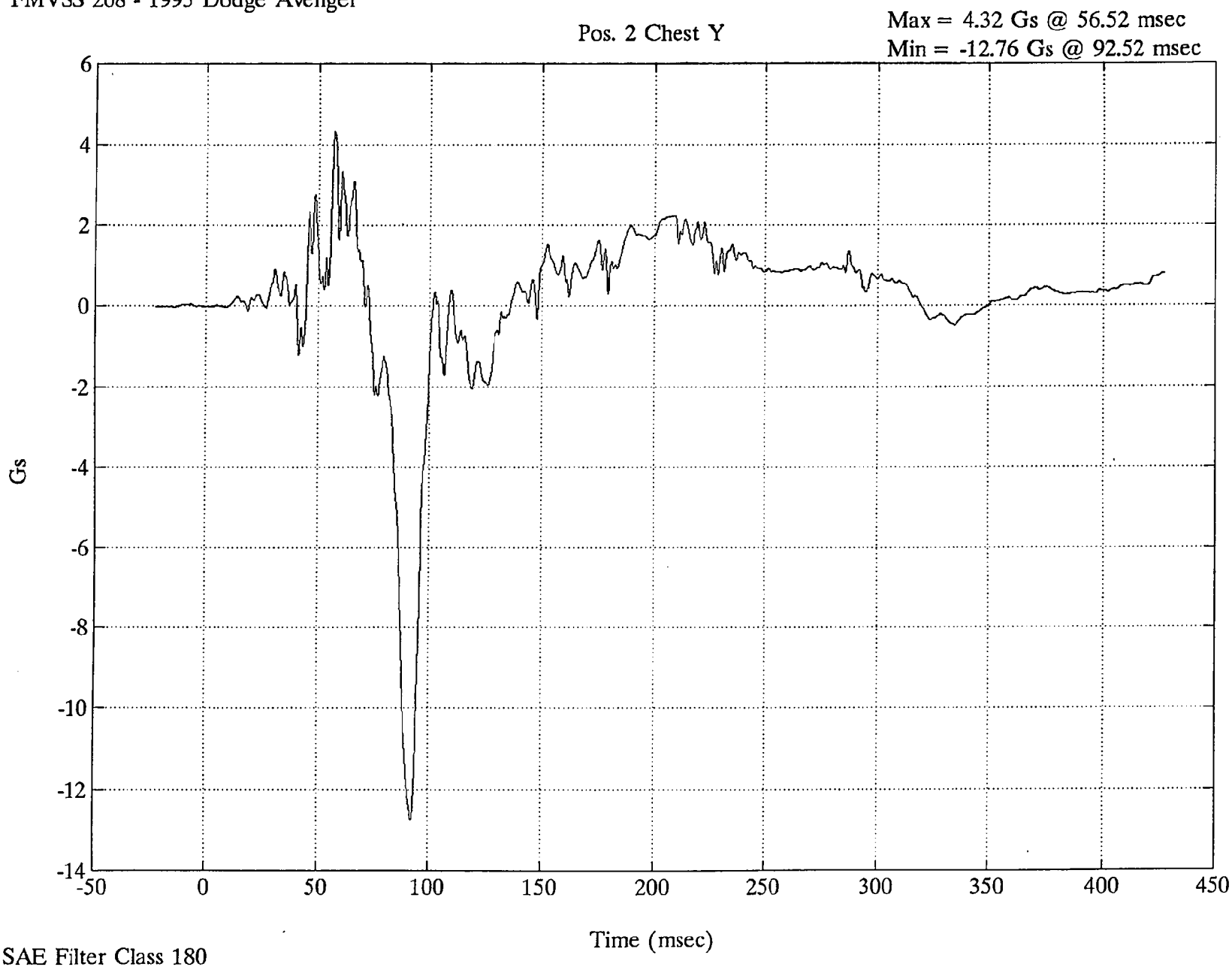
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 180

FMVSS 208 - 1995 Dodge Avenger



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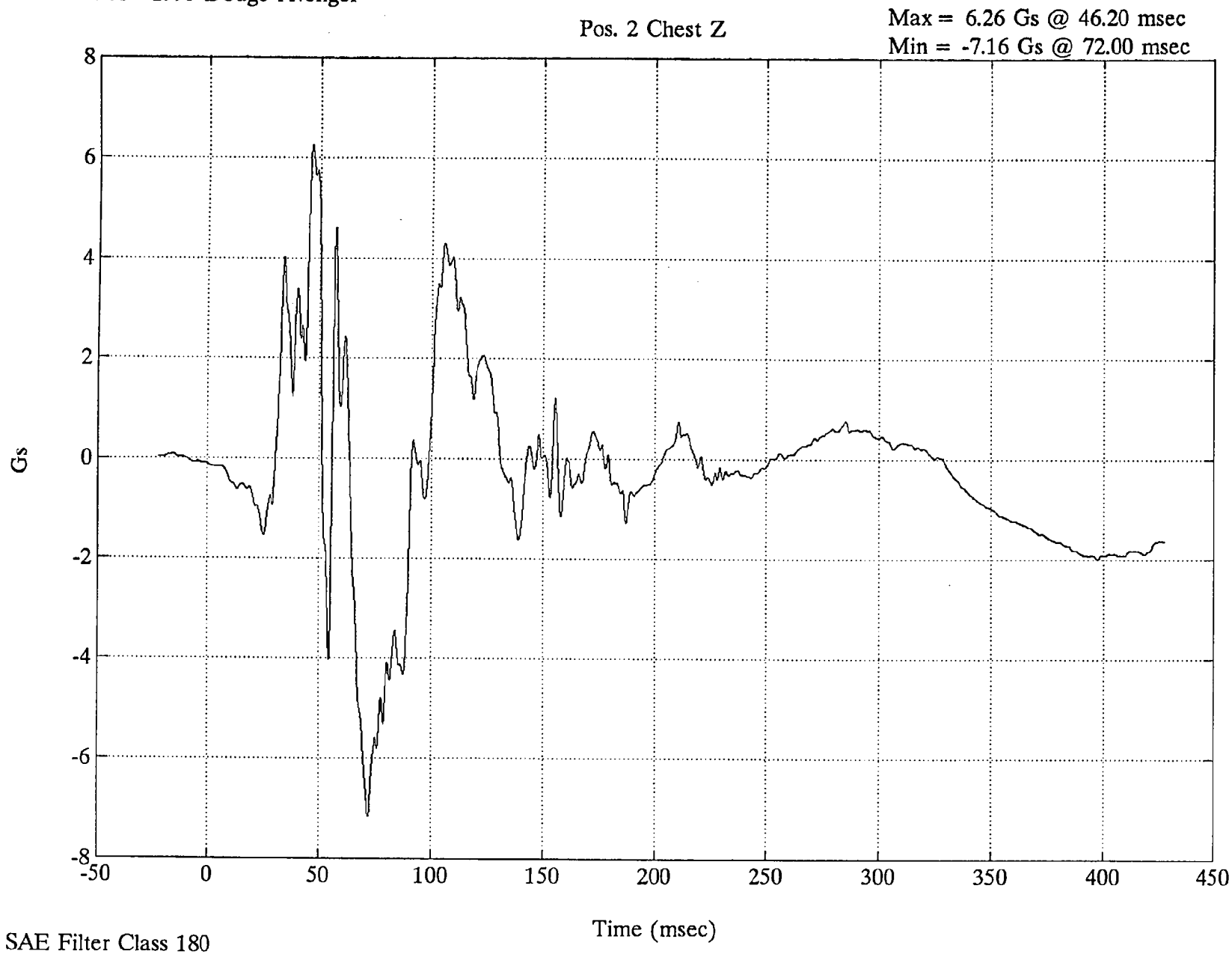
FMVSS 208 - 1995 Dodge Avenger



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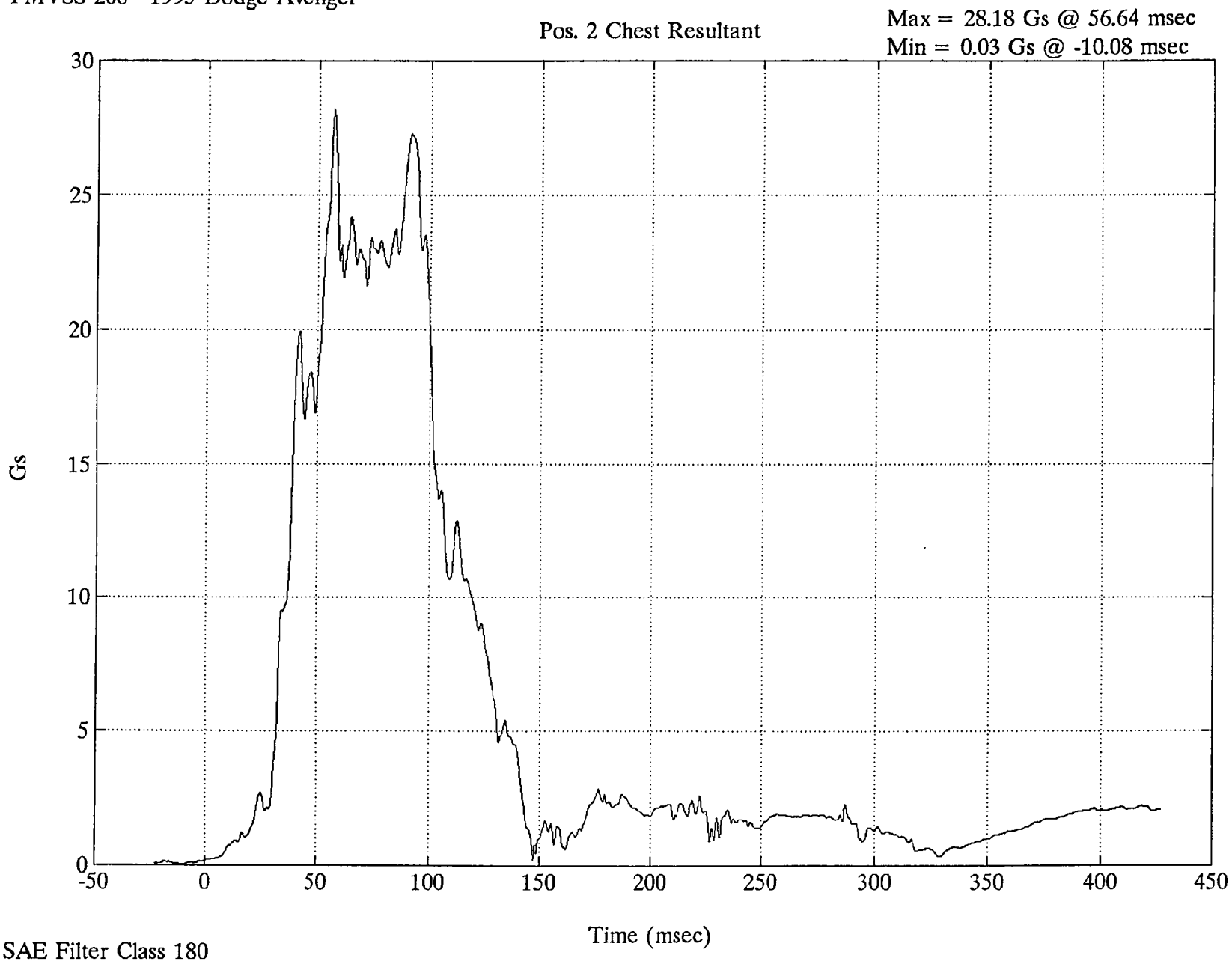

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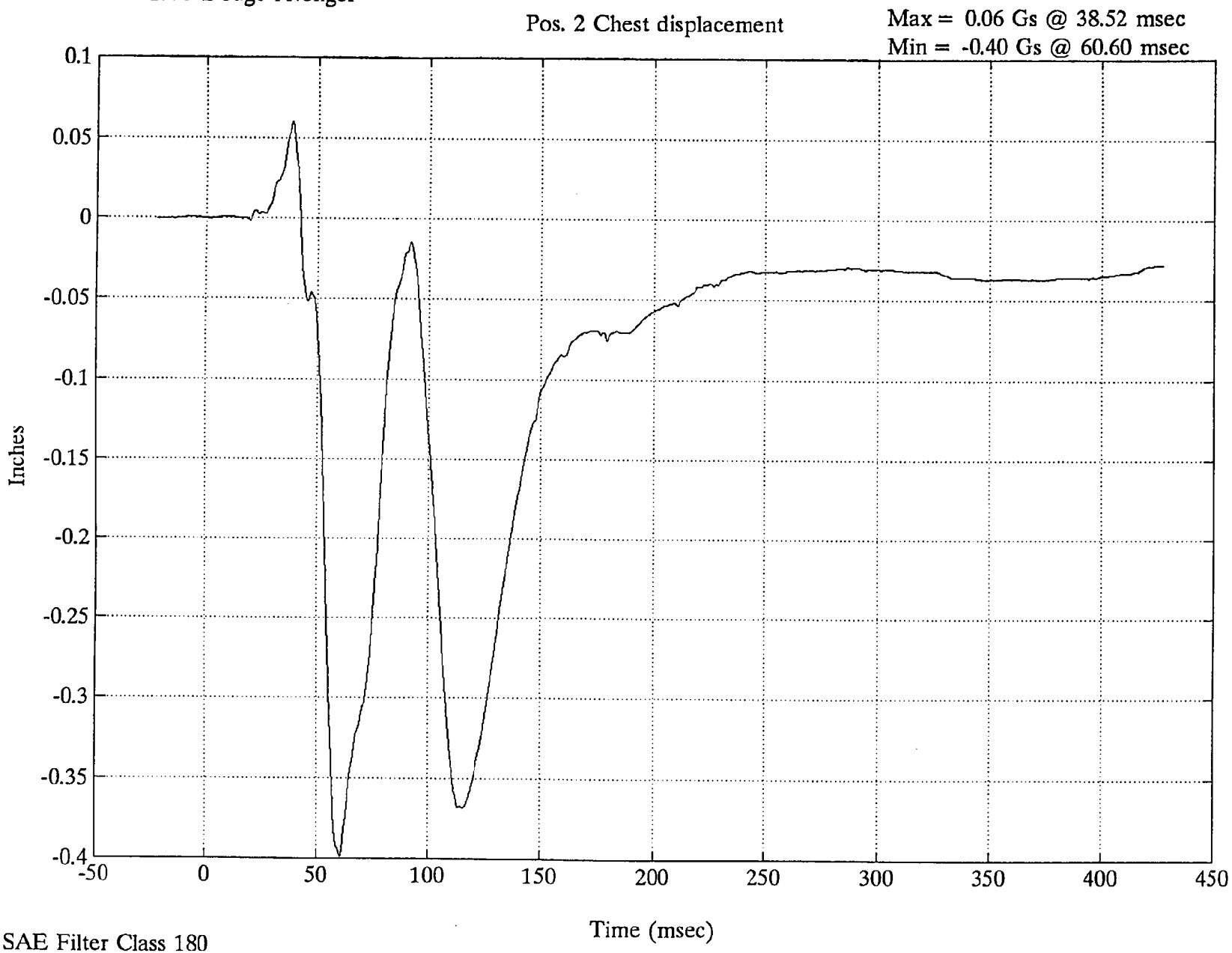

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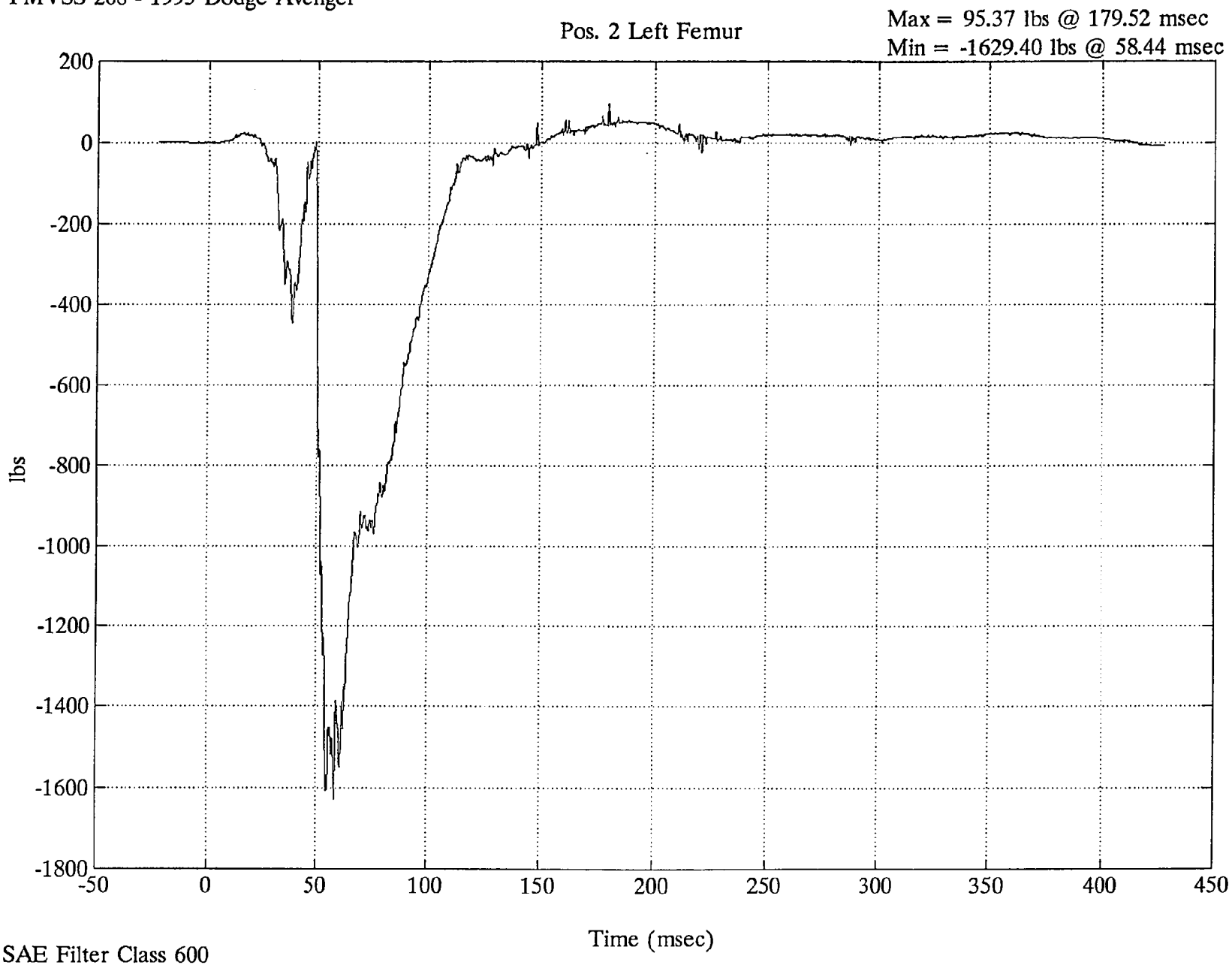
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 600

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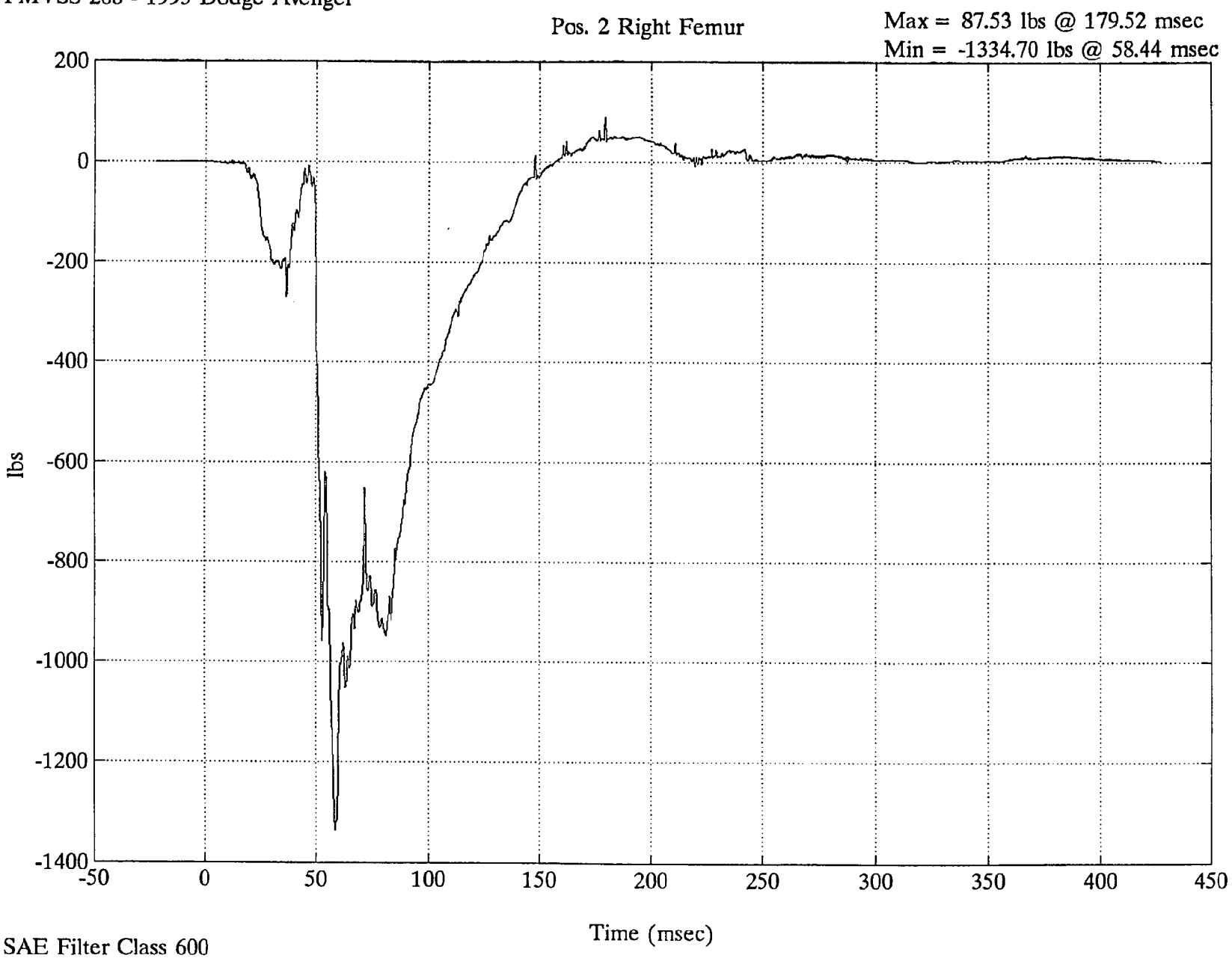
FMVSS 208 - 1995 Dodge Avenger



SAE Filter Class 600

8221-11

Appendix C

VEHICLE OWNERS MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

that they do not come out of the seatback.

WARNING!

Driving with the head restraints removed is dangerous. Always have them mounted when you drive the car. Failure to have them properly mounted may increase the chance of injury in a collision.

SEATBELTS

Seatbelts are installed in your car to protect the driver and passengers.

Always use the seatbelts. In an accident, injury to the driver and passengers may be reduced if seatbelts are properly used.

NOTE: Legislation in your state may require you to use seatbelts, but even if it is not required, you should always use them.

The following pages contain the recommended procedure for fastening, adjusting, and wearing the belts for comfort and safety.

WARNING!

(1) Never use one seatbelt for more than one occupant.

(2) Never wear the shoulder belt under your arm or out of position.

Always wear both the seat and shoulder belts and wear them in the proper position.

(3) Do not make any modifications that could change the effectiveness of the seatbelts.

(4) Never try to repair or replace the seatbelt assemblies on your own.

An authorized dealer should make all repairs and replacements.

UNIBELT restraint system

Front seats and both sides of the rear seat are equipped with a UNIBELT system, which uses a single belt and an emergency locking retractor.

This system is designed to provide comfort and safety by permitting full extension and automatic retraction of the belts during normal car operation. A sensing device inside the belt retractor locks the retractor when there is an abrupt change in motion.

NOTE: For instructions on how to install a child restraint system to the rear seat, see "Installing a child restraint system to a UNIBELT," on page 53.

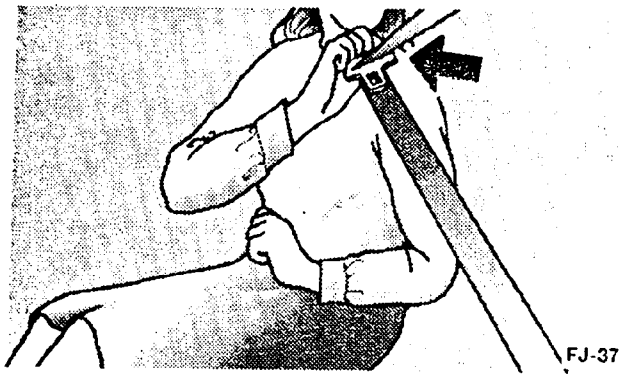
UNIBELT instructions

1. Get into the car and sit in the normal correct posture.

WARNING!

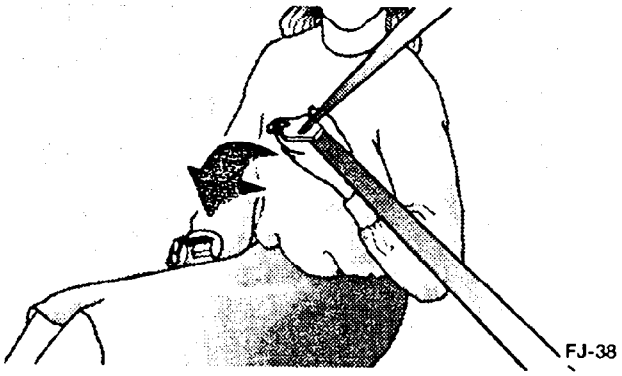
To minimize the risk of injury in a collision or a sudden stop, both the driver and passenger seatbacks should always be in a nearly upright position while the car is moving.

The protection provided by the seatbelts may be reduced significantly when the seatback is reclined. When the seatback is reclined, there is greater risk that the passenger will slide under the belt resulting in serious injury.


FJ-37

2. Grasp the movable latch plate. Slide it up the webbing as far as necessary so that it will be easy to pull across your body.

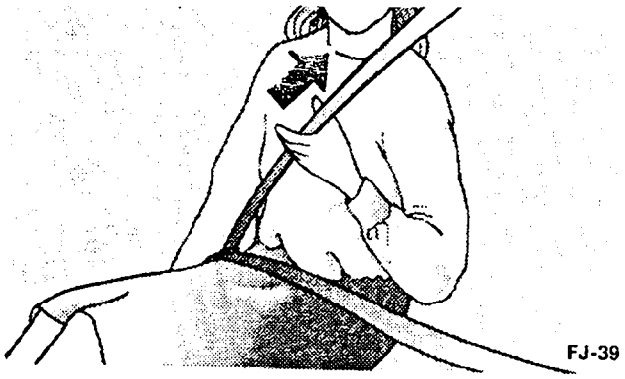
   After a couple of tries, this will become an automatic, one-handed operation.


FJ-38

3. Pull the webbing, and slide the movable latch plate toward the buckle. This system will not lock up if you stop or hesitate, so relax and continue to buckle-up.

   Push the latch plate into the buckle until you hear a click.

SEAT AND SEATBELT

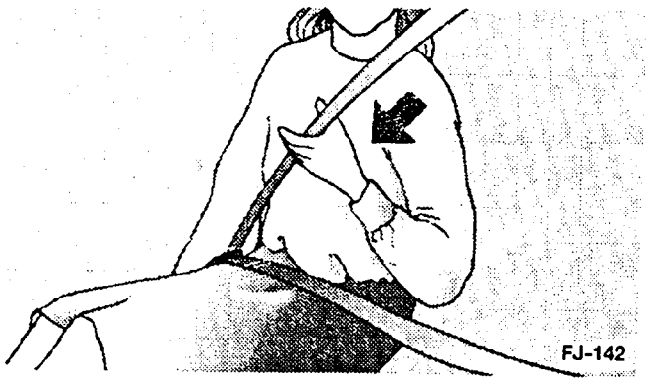

FJ-39

4. Pull up on the shoulder belt to ensure that there is no slack in the seatbelt. The seatbelt will not tighten during use; therefore, you can set it once for safety and comfort.

WARNING!

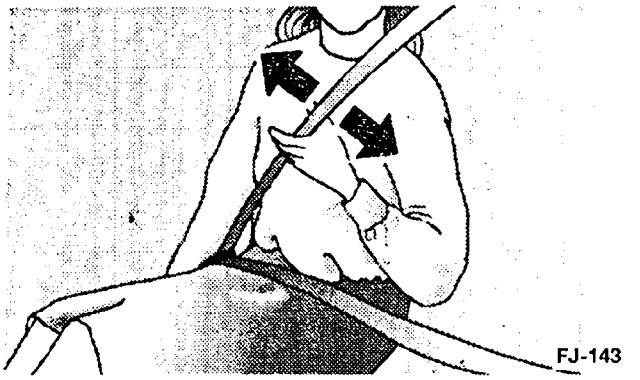
(1) Be sure that the seatbelt portion fits snugly and as low as possible around your hips, not around your waist. Failure to do so may increase the chance or severity of injury in a collision.

(2) Wear the seatbelt without twisting it.

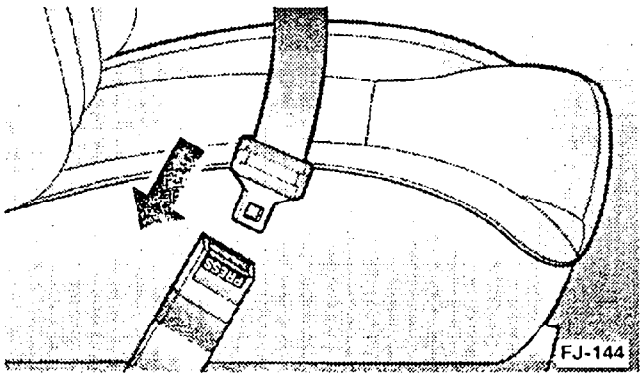

FJ-142

5. Check the belt slackness. The belt will retain the small

amount of slack necessary for comfort when you return to your normal seating position. If the belt is still too tight, pull out 6 or 8 inches of webbing, let it return to your chest, and repeat the above motion.



6. The shoulder belt will allow unrestricted movement under normal conditions. The belt will lock when there is an abrupt change in motion.

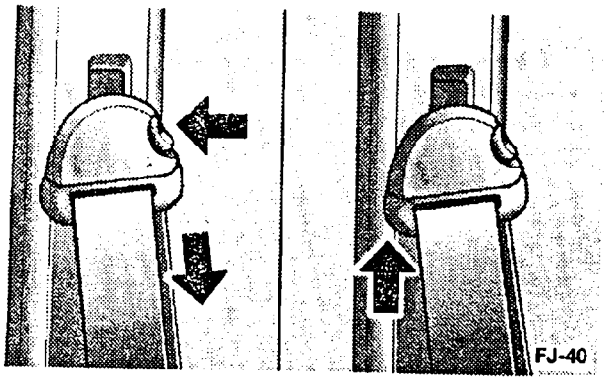


7. To release the belt, push the button on the buckle. To return the belt to its stowed position, pull the shoulder belt down slightly and release it immediately.

NOTE: As the belt retracts automatically, hold the plate while retracting so that the belt stows slowly.

WARNING!

Lock all doors before driving. Locking the doors and using the seatbelts will minimize the risk of injury or ejection in an accident.



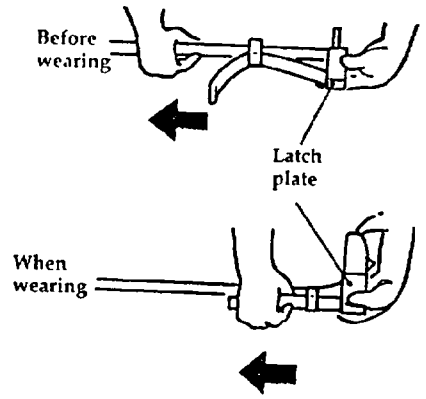
Adjustable seatbelt anchor (front seats)
You can adjust the height of the seatbelt anchor.

Depress the lock knob and move the seatbelt anchor down.

To move the anchor up, slide it without depressing the lock knob.

WARNING!

When adjusting the seatbelt anchor, set it at a position that is sufficiently high so that the belt will make full contact with your shoulder but will not touch your neck.

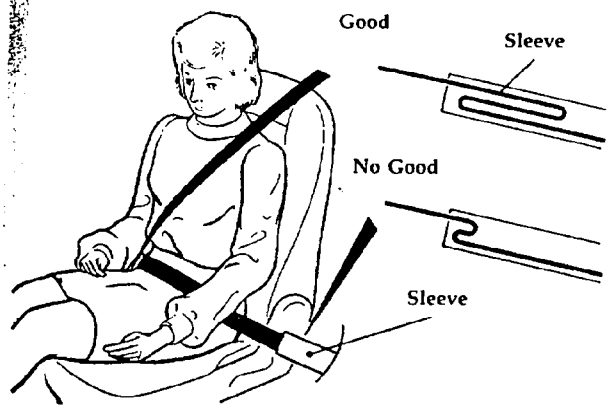


Rear seat lap belt

Center belt

To adjust the center belt, hold the belt and latch plate at right angles to each other. Then pull the belt as illustrated above to fit snugly.

Never use the same lap belt on more than one person at a time.



The lap belt portions of the front seatbelts have on them a sleeve inside which has the seatbelt webbing folded back over itself in a loop. This allows it to absorb the energy of a shock by pulling loose and releasing slack. If the loop inside the sleeve has come loose, replace the seatbelt.

WARNING!

All seatbelt assemblies including retractors and attaching hardware, should be inspected by an authorized dealer after any collision. We recommend that all seatbelt assemblies in use during a collision be replaced, unless the collision was minor and the belts show no damage and continue to operate properly.

Do not try to repair or replace any part of the seatbelt assemblies; that work should be done by an authorized dealer. Failure to have an authorized dealer perform the work could reduce the effectiveness of the belts and could result in serious injury in a collision.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

This car is equipped with a Supplemental Restraint System (SRS), which includes driver and front passenger air bags.

The SRS supplements the seatbelts to provide those

occupants with protection against head and chest injuries in certain moderate-to-severe frontal collisions.

The SRS is NOT a substitute for seatbelts. For maximum protection in all types of crashes and accidents, seatbelts should ALWAYS be worn by everyone who drives or rides in this car, with infants and small children in child restraints.

WARNING!

ALWAYS WEAR YOUR SEATBELT, EVEN IF YOUR CAR HAS AN AIR BAG.

(1) Seatbelts help keep the driver and front passenger properly positioned, which reduces injury risk in all accidents and when the air bags inflate.

(2) Seatbelts reduce the risk of injury in rollovers, in side- or rear-impact collisions, and in lower speed frontal collisions because the air bags are not designed to inflate in those situations.

(3) Seatbelts reduce the risk of being thrown from your car in a collision or rollover.

WARNING!

IT IS VERY IMPORTANT TO BE PROPERLY SEATED, EVEN IF YOUR CAR HAS AN AIR BAG.

Air bags inflate very fast and with great force. If the driver and front passenger are not properly seated, the air bag may not protect you properly and could cause injury when it inflates. So:

(1) Before driving, adjust the driver's seat as far back as possible while still maintaining complete control of the car.

(2) Before driving, adjust the front passenger seat as far back as possible.

(3) With seatbelts properly fastened, the driver and front passenger should sit upright with their backs against the seatbacks.

(4) Do not lean head or chest close to the steering wheel or instrument panel. Do not put feet or legs on or against the instrument panel.

WARNING (Continued)

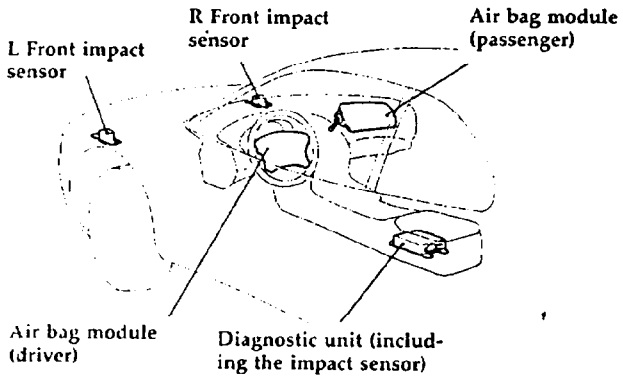
(5) Infants and small children should never be unrestrained or held in your arms or on your lap while in the car. They could be seriously hurt in an accident or when the air bag inflates. Proper seat children in a child restraint system. See "Child Restraints" on page 50.

WARNING!

- Do Not use REAR-FACING CHILD RESTRAINTS in the front seat of the car. The force of an inflating passenger air bag could push that restraint into the seatback, causing serious or fatal injury to the child.

  Rear-facing child restraints should be used only in the rear seat.

- Whenever you can, use FRONT-FACING CHILD RESTRAINTS in the rear seat. If used in the front passenger seat, adjust the seat as far back as possible.

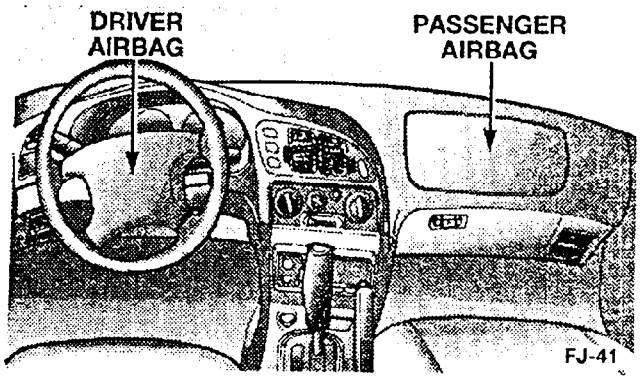


How the Supplemental Restraint System works

The SRS includes the following components:

— Impact sensors
— Diagnostic unit
(Including the impact sensor)
— SRS warning light
— Air bag modules
— Interconnecting wiring

The air bags will operate only when the ignition switch is in the "ON" or "START" positions.



Air bag system

The driver's air bag is under the padded cover in the middle of the steering wheel. The front passenger's air bag is in the instrument panel above the glove compartment. The driver's air bag and the front passenger's air bag are designed to inflate at the same time.

The air bags are designed to inflate only in certain moderate-to-severe frontal collisions. The air bags are not designed to inflate in certain lower speed frontal collisions, in rollovers, or in side or rear impact collisions. The air bags also may not inflate in certain frontal collisions, even through the car may be severely damaged. Such non-inflation does not mean that something is wrong with the SRS system, but rather that the collision forces were not severe enough to activate it.

When the impact sensors detect an impact of sufficient frontal force, their switches close a circuit which ignites materials in the inflator to generate nitrogen gas and inflate the air bags.

Deployment of the air bags produces a sudden, fairly loud noise and releases some smoke and powder, but these conditions are not injurious, and do not indicate a fire in the car. The air bags deflate very rapidly after deployment, so there is little danger of obscured vision.

WARNING!

(1) Do not attach anything to the steering wheel padded cover, such as trim material, badges, etc. Added materials might strike and injure an occupant if the air bag inflates.

(2) Do not set anything on or attach anything to the instrument panel above the glove compartment. These objects might strike and injure an occupant if the air bag inflates.

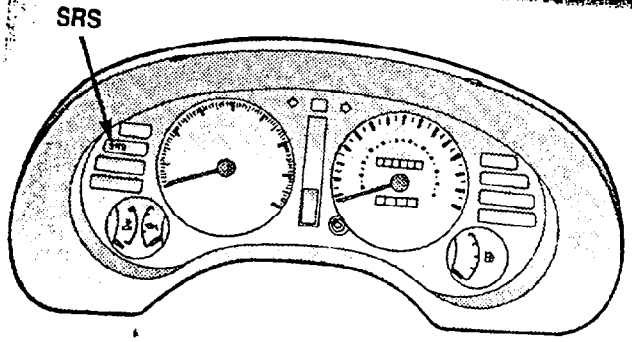
(3) Do not attach accessories to, or put them in front of, the windshield. They could restrict air bag inflation, or they could strike and injure an occupant if the air bags inflate.

(4) Do not put packages, pets, or other objects between the air bags and the driver or front passenger. Doing so could affect air bag performance or could cause injury when the air bag inflates.

WARNING (Continued)

(5) After an air bag inflates, several air bag components will be hot. Do not touch them; you could be burned.

(6) The SRS system is designed to work only once. After the air bags deploy, they will not work again. They must be promptly replaced and the entire SRS system must be inspected by an authorized dealer.



FJ-42

SRS warning light

A supplemental restraint system ("SRS") warning light is on the instrument panel. The system checks itself and the light tells you if there is a problem.

When the ignition key is turned to the "ON" or "START" positions, the warning light should illuminate for about 7 seconds and should then go out. This means the system is ready.

The air bags will operate only when the ignition switch is in the "ON" or "START" positions.

WARNING!

If any of the following conditions occur, the SRS is not working properly. Immediately have it inspected by an authorized dealer:

- The SRS warning light does not illuminate when you start the car.
- The SRS warning light does not go off after about 7 seconds.
- The SRS warning light illuminates while driving.

SRS servicing

Have the entire SRS system inspected by an authorized dealer 10 years after the car manufacture date shown on the certification label. The certification label is on the center pillar on the driver's side.

WARNING!

(1) Any maintenance performed on or near the components of the SRS must be performed only by an authorized dealer.

Do not permit anyone else to service, inspect, maintain, or repair any SRS components or wiring. Similarly, no part of the SRS system should ever be handled or disposed of by anyone except an authorized dealer.

Improper work on the SRS components or wiring could result in inadvertent deployment of the air bags or could render the SRS system inoperative. Either situation could result in serious injury.

(2) Do not modify your steering wheel or any other SRS components. For example, replacing the steering wheel or modifying the front bumper or body structure can adversely affect SRS performance and lead to possible injury.

WARNING (Continued)

(3) If your car has had any front-end damage, have the SRS system inspected by an authorized dealer to ensure it is working properly.

NOTE:

(1) When you transfer ownership of the car to someone else, we urge you to alert the new owner that it is equipped with the SRS system. Refer that owner to the applicable section in this owner's manual.

(2) If you junk or scrap the car, we urge you to first take the car to an authorized dealer so that the SRS system can be made safe.

Appendix D

CHECKLIST

CALSPAN VEHICLE PREPARATION CHECKLIST
Pre-Test, Engineer

TEST TYPE 208
VEHICLE YEAR , MAKE AND MODEL 95 Dodge Avenger
VIN No. 4B3AV42Y8SE119410
NHTSA No. CS0310

	Date & INITIALS
1. Seat tracks set in mid position, seat back angle set, steering column position set, seats in lowest position, and lumbarsupport off. All data recorded in test report.	✓
2. Centerline of each front seat marked. Place H-point machine in each front outboard seat following H-point machine checklist if Part 572E ATDs are used.	✓
3. Adjustable seat belt anchorages positioned per mfg. inst.	✓
4. All dsp have at minimum type I seat belt.	—
5. All outboard dsp have type II seat belt.	—
6. Seat belts adjust to fit required ATDs with seat in full forward or rear position.	—
7. Perform air bag, seat belt warning system, and belt comfort and convenience tests and record in test report.	✓
8. Measure windshield for FMVSS 212, and 219 and record in test report.	✓
9. Measure accelerometer locations and record if applicable.	✓
10. Weigh vehicle with all equipment and ATD weight. Test weight is target weight (-10,-20 lbs.). Record in test report with ballast added or vehicle components removed to achieve test weight.	✓

Signed: K. Evans Date: 1-19-95

Table B-6

CALSPAN
H-POINT MACHINE PLACEMENT CHECKLIST
FOR PART 572 E - HYBRID III DUMMY

	DRIVER	PASSENGER
Place a piece of muslin cloth over seat area.	✓	✓
Place H-Point machine in center of seat. If vehicle is a bench seat, then the center is aligned with the center of the steering column. For the passenger seat, the center is found by placing the machine the same distance outboard from the vehicle centerline as for the driver seat. If the seat is a bucket, place the H-point machine on the seat centerline.	✓	✓
Attach leg assemblies. T-bar parallel to ground and perpendicular to vehicle centerline. T-bar set at 15.8, legs set at 16.3 for 50ith percentile.	✓	✓
Position right driver's foot on undepressed accelerator pedal. Insert pin in right foot to ensure angle is not less than 87 degrees. Sole on pedal and heel as far forward as possible. Left knee is place same distance from H-point machine centerline as right knee.	✓	
Passenger - position knees 10 inches apart. Place feet as far forward as possible.		✓
Apply lower leg and thigh weights.	✓	✓
Tilt back pan forward. Pull T-bar forward then release to allow machine to slide back into seat.	✓	✓
Apply a 22 pound rearward load at the intersection of hip angle and T-bar. Apply load twice.	✓	✓
Return back plane to seat back.	✓	✓
Prevent H-point machine from sliding forward for the rest of the procedure.	✓	✓
Install buttock and torso weights.	✓	✓

H-POINT MACHINE PLACEMENT CHECKLIST FOR PART 572 E - HYBRID III DUMMY

	DRIVER	PASSENGER
Move back plane forward and rock 3 times over a 10 degree arc.	✓	✓
Lift each leg and allow it to fall into place. Make sure seat pan in level (i.e. no roll) and return back pan to seat back.	✓	✓
Apply force to the back pan to either: 1. Increase hip angle 3 degrees. 2. a maximum of 15 pounds.	✓	✓

Record the following:

	DRIVER	PASSENGER
Hip Point X (fore/aft of striker)	16 1/4"	16 1/4"
Y (above/below striker) (inboard of striker)	7 1/2"	7 1/2"
Y (minus 0.25 inch) *	7 5/8"	7 1/4"

Dr. → 3 1/2" to sill (-1/4" already included)

* - According to SAE procedures, the target H-point should be the X location above (+/- 0.5 inch) and 0.25 inches below the Y location (+/- 0.5 inch).

Pass. → 4" to sill (-1/4" already included)

Signed: [signature] Date: 1/19/95

29 1/2	28 19/8
21 1/4	21 3/8
8 1/4	7 7/8
7 1/8	7 1/2

CALSPAN FMVSS 208 FRONT IMPACT TEST CHECKLIST

Project Engineer

NHTSA No. CS0310

Test No.: X65-11-1489

Vehicle: 95 Dodge Avenger

Date: 1/20/95

- o Transport dummies to the temperature-controlled, preparation building at the start of the track. Day before test. ✓
- o Transport vehicle to the temperature-controlled, enclosed barrier building. Take pre-test still photographs of vehicle. ✓
- o Set up high-speed movie cameras, time-zero flash lamps and computer trigger switch. ✓
- o Record location of high-speed movie cameras. ✓
- o Check speed trap location. ✓
- o Set up ground positions for electrical trip switches. ✓
- o Locate camera start switch pad and engine kill switch pad. ✓
- o Test individual cameras for operation; load film. ✓
- o Move the vehicle to the temperature-controlled building at the start of the track. ✓
- o Attach tow cable, abort cable and guide. Align vehicle on approach lane guiderail at proper location. ✓
- o Position dummies as specified in Laboratory Test Procedure TP-208-09 and record the measurements. ✓
- o Monitor ambient and vehicle windshield molding temperature. ✓
- o Attach instrumentation umbilical cables to vehicle. ✓
- o Record ride attitude. ✓
- o Record ATD positions in test report and chalk ATDs ✓
- o Secure all wire cables in occupant compartment. ✓
- o Record ambient and windshield mounting temperature. ✓

- o Hood, trunk, tailgate and hatchback closed and fully latched. ✓
- o Set windows according to manufacturer's request. ✓ qpw
- o Install DLR control unit on vehicle. ✓
- o Activate DLR calibrate control and monitor high and low voltage amplitudes on data acquisition computer. ✓
- o After all signal levels are found to be within acceptable limits, activate DLR calibrate control and record all calibration signals on the computer. ✓
- o Remove DLR control unit and secure all cables. ✓
- o Take pre-test, real-time (24 fps) motion pictures of the vehicle and dummies. ✓
- o Barrier impact trigger check performed for data acquisition system. ✓
- o Doors fully closed but unlocked. ✓
- o Vehicle transmission in Neutral. ✓
- o Parking brake disengaged. ✓
- o Perform on board light system check. ✓
- o Test track manager has desired impact velocity. ✓
- o Test vehicle ignition in "ON" position. SRS light operation acceptable. Observed by OVSC and mfg. representatives. ✓
- o Fuel collectors ready at barrier. ✓
- o High-speed cameras show green light, indicating ready. ✓
- o Photographers ready. ✓
- o Electrical technicians ready ✓
- o Computer operator ready. ✓
- o Onboard lights on. ✓
- o Run test. ✓

- o Record the ambient temperature as the vehicle begins to move towards the barrier. 70° ✓
- o Document post-test condition of the vehicle exterior, vehicle interior and dummies with a real-time movie camera. ✓
- o Collect Stoddard solvent leakage (if any) immediately after impact. Document leakage with real-time motion picture coverage and a stop watch. —
- o Record post-test condition of vehicle and ATDs. ✓
- o Take post-test still photos of vehicle (except underside) and ATDs. ✓
- o Record visually apparent dummy contact locations. ✓
- o Check windshield for FMVSS 212 and record in test report. ✓
- o Check windshield for FMVSS 219 zone intrusion and record in test report. ✓
- o Perform static rollover test for FMVSS 301 only if "quick look" dummy data appear to have satisfied FMVSS 208 occupant injury criteria. Collect and photographically document possible Stoddard solvent spillage. ✓
- o Take still photographs of the vehicle underside. ✓
- o Fill in air bag data sheet. ✓
- o Record seat movement, if any. ✓
- o Document any other noteworthy observation(s) in test report. ✓
- o Photograph the velocity counter. ✓
- o Perform post-test functional DLR check. ✓
- o Process all data gathered on computer. ✓

Signature: _____ Date: 1-21-95

Calspan
Part 572E - Hybrid III
DUMMY PLACEMENT CHECKLIST

	Driver	Passenger
Place dummy knees 10.6 inches apart as measured from outer knee clevis.	✓	✓
Right foot on accelerator pedal.	✓	
Left foot on toeboard, heel on floorpan. If vehicle has a footrest that does not elevate foot, place foot on footrest. If feet do not reach toeboard place feet perpendicular to leg.	✓	
For vehicles with bucket seats place dummy mid-sagittal plane along seat centerline.	✓	✓
For vehicles with bench seat, driver is placed in centerline with steering wheel, passenger is placed same distance from vehicle centerline as driver.	✓	✓
Place dummy H-point coincides with H-point machine location +/- 0.5 vertically and horizontally (per SAE J826 Apr.80) Note: H-pt machine thigh and legs set at 15.8" and 16.3". Also note vertical target H-pt. 0.25" below H-pt. machine meas.	✓	✓
Place pelvic angle gauge in pelvis and record angle. Angle must be 22.5 degrees +/- 2.5 degrees.	✓	✓
Upper torso is centered on seatback. Dummy head is level to within 0.5 degrees.	✓	✓
Manual Belt Placement		
Place belt around dummy and fasten latch.	–	–
Cycle belt retractors 4 times.	–	–
Apply 2-4 pounds of tension to belt near retractor and measure. Torso and lap belts should lay flat.	–	–

Part 572E - Hybrid III
DUMMY PLACEMENT CHECKLIST

	Driver	Passenger
Automatic Belt Placement		
Close doors and allow vehicle system to position belt on dummy. Torso belt should lay flat on shoulder. If not contact OVSC COTR.	-	-
Arm and Leg Placement		
Fully outstretch driver arm. Push each arm rearward until palm center contacts outer steering wheel rim. Tape thumb of each hand with 1/4 inch wide masking tape. Max 1" overlap.	✓	
Fully outstretch passenger arm. Push each arm rearward until upper arm contacts seatback. Lower forearm until palm contacts outer thigh and little finger contacts seat cushion.		✓
Dummy feet and legs may be repositioned.	✓	✓

Vehicle: 95' Dodge Avenger

NHTSA No. CS0310

Signed: J. Evans Date: 1-21-95

CALSPAN 208 HIGH-SPEED PHOTOGRAPHY CHECKLIST

NHTSA No. CS0310
Vehicle 95 Dodge Avenger

- o Obtain real-time (24 fps) film coverage of the removal, installation and tightening of the vehicle fuel filler cap consistent with Stoddard solvent fill operation. ✓
- o Set up on-board vehicle and fixed-site cameras consistent with test requirements. ✓
- o Site cameras to ensure that the film will show the required view and target markers and that glare or light reflection on vehicle minimized. ✓
- o Focus cameras. ✓
- o Record identification number, site location and lens focal length for all cameras. ✓
- o Set up time-zero event markers and computer trigger switch. ✓
- o Position camera start switch pad. ✓
- o Test all cameras for operation. ✓
- o Load all cameras. ✓
- o Obtain pre-test, real-time coverage of the vehicle and dummies. ✓
- o High-speed cameras show green light, indicating ready. ✓
- o Film vehicle motion along track from start to impact using real-time camera. ✓
- o Record post-test Stoddard solvent spillage from vehicle (if any) immediately following the impact. ✓
- o Obtain post-test, real-time coverage of the vehicle and dummies. ✓

Signature: Ed Dutton Date: 1/21/95

NHTSA No. CS0310
Date: 1/20/95
Vehicle: 95 Dodge Avenger

CALSPAN FMVSS 208 ELECTRICAL TECHNICIAN CHECKLIST

- o All accelerometers calibrated within 6 months, have not been used for more than four FMVSS 208 tests without recalibration, or been used in an ATD which failed 208 without recalibration. ✓
- o Dummy's have passed pre-test calibration. ✓
- o Dummies attached to amplifier boxes and also grounded. ✓
- o Data umbilicals attached to vehicle. ✓
- o Event trigger switch functional. ✓
- o Data recording system functional. ✓
- o Data channels functional. ✓
- o Pre-test zero and DLR levels acceptable and recorded. ✓
- o Post-test zero and DLR levels recorded. ✓

Signed: DW Hess

NHTSA No. CS0310
Date: 1/20/95
Vehicle: 95 Dodge Avenger

CALSPAN FMVSS 208 TRACK MANAGER CHECKLIST

o Obtain vehicle test weight.	✓
o Set console pull force limit.	✓
o Set abort system window.	✓
o Set abort system pressures.	✓
o Verify dummies are grounded, sprayed with static elimination spray, and vehicle battery drained and disconnected.	✓
o Perform onboard light check.	✓
o Start tow system engines.	✓
o Tow system feedback is acceptable.	✓
o Velocity trap system check acceptable.	✓
o Tension tow cable.	✓
o Send track personnel to ready positions.	✓
o Receive final OK from all personnel.	✓
o Energize onboard lights and notify barrier personnel to light barrier.	✓
o Run test.	✓

Signed: [signature]